RECORDKEEPING, BOOKKEEPING, ACCOUNTING SURVEY

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Review of Literature

Bangs, F. K. and Hillestad, M.C. Curricular Implications of Automated Data Processing for Educational Institutions. 1968.

Fairbank, R. E. A Followup of New York Staff High School Bookkeeping Students. 1967.

Lanham, F. W., Herschelmann, K.M., Weber, C.P., and Cook, F.S. Development of Performance Goals for a New Office and Business Education Learning System (NOBELS). 1970.

Luxner, L. A. Factors Affecting the Employability of Vocational Bookkeeping Students. 1971.

Perkins, E.A., Byrd, F. R. and Roley, D.E. Clusters of Tasks Associated with Performance of Major Types of Office Work. 1968.

Reap, Margaret C. Job Task of the Beginning Accounting and Bookkeeping Worker Compared with the Content of the High School Accounting and Bookkeeping Curriculum. 1976.

Rypien, L., and Kashuba, S.C. Business Education in Alberta High Schools. 1975.

Spanswick, R.S. An Investigation to Determine the Qualifications and Skills Desired, Accepted, and Actually Used in Manual Bookkeeping Jobs Which were Listed in Chicago and New York City Newspapers during the Months of May and August, 1966. 1968.

West, Leonard J. Survey of Entry-Level Bookkeeping Activities in Relation to the High School Bookkeeping Curriculum. 1973.

Bibliography

THE PURPOSE OF THE STUDY

The overall purpose of this study is to provide current and accurate information for the modification of high school recordkeeping, bookkeeping and accounting courses in order to give them a more direct relationship to the actual job activities of entry-level bookkeepers and accounting clerks.

Before this study was instituted, the Curriculum Policies Board at its meeting of April 2 and 3, 1979, ratified the request of the Business Education Curriculum Coordinating Committee to revise the senior high school Business Education Program. Two subjects which were particularly in need of revision were Recordkeeping 10 and Accounting 10 and 20. Thus, the survey/study as background information for the Committee was scheduled to begin in June, 1980.

In order to fulfill the purpose and request for background information, answers to the following questions were sought from employees assigned to beginning level bookkeeping tasks from private (non-governmental) business firms located within the geographical area of Edmonton and vicinity in the Province of Alberta. This area included the City of Edmonton proper and an area roughly bounded by Fort Saskatchewan, Sherwood Park, Nisku, Spruce Grove and St. Albert.

The questions used to guide this study were drawn from a New York State study, Survey of Entry-Level Bookkeeping Activities in Relation to the High School Bookkeeping Curriculum by Leonard J. West (1973) and are:

1. What is the congruency between those recordkeeping, bookkeeping and accounting activities taught within the Alberta school curriculum and those recordkeeping, bookkeeping, accounting activities usually engaged in by entry-level employees?

2. To what extent do employment and advancement in recordkeeping, bookkeeping, accounting positions depend on formal school training in recordkeeping, bookkeeping and accounting?

3. What recordkeeping, bookkeeping, accounting activities of entry-level employees are not included within the Alberta school curriculum (particularly those concerned with the computerization of financial data)?

4. What differences in recordkeeping, bookkeeping, accounting activities of entry-level employees, if any, are associated with differences in the type and size of business firms?

This study does not attempt to provide a new course of study for recordkeeping, bookkeeping or accounting courses for the schools in Alberta. The only purpose of this survey is to provide the information on which a modification of the present recordkeeping, bookkeeping and accounting curriculum could be based.

THE PROCEDURE

The procedure followed in the survey consisted of three activities.

The first activity determined the eligible employers from the population of private (non-governmental) employers. The second activity selected employees from within the sample of eligible employers.

The third activity developed a questionnaire which was given to the employees. Responses to the questionnaire were subsequently analyzed, interpreted and reported.

A. Selection of Employers

A stratified random sample of potentially eligible employers was drawn from the population of private (non-governmental) employers. This sample was stratified on the basis of type and size.

The type of organization was defined by the Standard Industrial Classification Manual, Revised (1970), which describes twelve industries and their respective sub-groupings. These divisions are as follows:

Agriculture;
Forestry, Fishing and Trapping;
Mines (including Milling), Quarries and Oil Wells;
Manufacturing;
Construction Industry;
Transportation;
Communications and Other Utilities;
Trade;
Finance, Insurance and Real Estate;
Community Business and Personal Service Industries;
Public Administration and Defense;
Industry Unspecified or Undefined.

The size was defined by the total number of employees within the various organizations.

A population described in this manner permitted the selection of a sample of potentially eligible employers on the basis of the proportional number of businesses in each category. The selection of the potentially eligible employers was inversely proportional to the way they actually fell within the categories of type and size. The sample accurately reflected the population with respect to the type and size of business.

From this sample of potentially eligible employers, a sample of eligible employers was formed.

The larger firms (six or more employees) were sent a covering letter which explained the purpose of the study and asked for their cooperation which took the form of compiling a list of names of their entry-level bookkeepers and accounting clerks. Also included in the letter was a copy of the questionnaire so that the employer knew that the information requested did not incur any breach of confidentiality about the business itself. The smaller firms (one to five employees) were sent a covering letter explaining the study and asking for their cooperation which took the form of distributing an enclosed copy of the questionnaire. The reason for using this approach with the small firms rests on the assumption that only one person likely handles the bookkeeping duties.

B. Selection of Employees

The selection of entry-level bookkeepers and accounting clerks was directly related to the procedure for selecting the eligible employers. The employees used in this study were drawn from within the sample of eligible employers.

Upon receipt of a phone call one or two weeks after the initial mail contact, the larger firms were asked to submit their list of potential employees. Questionnaires were sent directly to 180 eligible employees. A total of 118 replied, and of these 15 were male.

C. Development of the Questionnaire

A questionnaire similar to the one used in a study conducted by West (1973) was used. Information concerning education background, job history, details of present activities and task frequency were sought from the respondents.

The job activities list was derived from the Alberta Curriculum Guides for Recordkeeping and Accounting 10, 20, 30; Data Processing 20; Computing Science 30; and the Senior High School Program of Studies. The section pertaining to data processing was further supplemented by reference to the findings of a study completed by Bangs and Hillestad (1968) relevant to the curricular offerings. Consequently, items in the questionnaire described activities taught in senior high schools in Alberta.

The questionnaire was tested for its representativeness by comparing the job activities to the activities found in various textbooks which are accepted for use in the teaching of recordkeeping, bookkeeping and accounting in Canadian provinces (see Appendix IV). This gave the survey a national perspective.

D. Pilot Study

The survey form and design of the study was pre-tested in Calgary. Upon the basis of 30 responses, the questionnaire design was checked and amended.

E. Analysis of Data

The method of analyzing the data was by tabulating frequency and percentage of responses. Other descriptive statistics included averages of percentages for categories of survey items.

F. Definitions

The following definitions are pertinent to this study:

1. Type of firm: the Standard Industrial Classification Manual, Revised, (1970) was used to define the type of business organization.

2. Size of firm: the total number of employees represented the size of the firm.

3. Entry-level: "An entry-level position is one that employers in fact offer to an inexperienced or untrained or nominally experienced or nominally trained person." (West, 1973).

4. Probability Sample: "A probability sample is one which the population has a known probability of being selected." (West, 1973).

5. Work Activities: "...what persons employed to process financial data in fact do..." (West, 1973).

The work activities listed in the questionnaire were the skills included in the Alberta curricula for recordkeeping, bookkeeping and accounting.

FINDINGS

THE QUESTION: WHAT IS THE CONGRUENCY BETWEEN THOSE RECORDKEEPING, BOOKKEEPING OR ACCOUNTING ACTIVITIES TAUGHT WITHIN THE ALBERTA SCHOOL CURRICULUM AND THOSE RECORDKEEPING, BOOKKEEPING OR ACCOUNTING ACTIVITIES USUALLY ENGAGED IN BY ENTRY-LEVEL EMPLOYEES?

The degree to which entry-level employees use skills taught them in Alberta high schools is the key question this study attempted to answer.

Results show an overwhelming majority of respondents do not perform the recordkeeping, bookkeeping or accounting activities taught within the Alberta school curriculum.

Job activities were typically not learned in high school, but were learned largely on the job, according to the table portraying the Summary of the Details of Present Job Activities on pages 7 and 8. All job activities listed in the Summary are taught in some or all of the recordkeeping, bookkeeping, and accounting courses in Alberta schools. Appendix IV lists the textbooks from which these questions were derived.

SKILLS NOT LEARNED IN HIGH SCHOOL

We can deduce from the Summary that many of the activities taught in the high school are not used by the entry-level employee in the workplace. The two columns which show this are entitled "do not per" (do not perform the activity) and "job" (job experience). In the latter column, respondents reported performing the activity, but learning it on the job.

The Summary provides information for each of the thirteen categories of tasks. According to the "hs" (learned in high school) column, a very small number indicated that they learned the tasks they perform on the job in high school.

The Summary also indicates that, for the thirteen categories of tasks, a range of 7.6 per cent to 25 per cent of the entry-level employees had to learn the particular type of task on the job.

According to these responses, a large proportion of former students said many recordkeeping, bookkeeping or accounting skills they learned in high school have little relationship to their work when they entered employment in this field for the first time. Numbers enrolled in Alberta senior high school programs in recordkeeping, bookkeeping and accounting are substantial (Appendix IV, Tables 6-10). For example, in 1981,

2,570 were enrolled in Recordkeeping 10;
15,956 were enrolled in Accounting 10;
9,417 were enrolled in Accounting 20;
3,551 were enrolled in Accounting 30.

SKILLS LEARNED IN HIGH SCHOOL WERE FEW

A third column in the Summary which is relevant to the question is the one entitled "hs" (work activity learned in high school, and used on the job). Only a small percentage of respondents reported they used skills that they had learned in high school.

A maximum proportion of 1.7 per cent indicated they performed tasks classified as "Sales or Services Rendered". For all other categories, less than 1.7 per cent of the respondents said they performed job activities that they had learned in high school.

SUMMARY

Table 1: Summary of Details of Present Job Activities and Where Learned

This summary is in frequency and percentage, averaged* for each category of questions.

	do not per	hs phs job	hs phs	hs job	hs	phs job	phs	job
A. Sales or Services Rendered (12 items averaged*)								
f	86	.25	0	.66	.5	2	0	22
%	72.	0.2	0.0	0.4	1.7	1.7	0.0	18.6
B. Cash Receipts (13 items averaged*)								
f	100	1	0	.58	.5	1.9	.41	17
%	84.8	0.08	0.0	.49	.42	1.6	.35	14.
C. Accounts Receivable (8 items averaged*)								
f	78	0	0	.37	1.1	.5	0	30
%	64.	0.0	0.0	0.3	0.95	0.4	0.0	25.
D. Purchases or Services Rendered (12 items averaged*)								
f	99	.18	0	.36	.18	.45	.09	19
%	84.	0.1	0.0	0.3	0.15	0.38	0.07	16
E. Cash Disbursements (11 items averaged*)								
f	90	.3	.1	.6	1.1	3.9	.8	23
%	76.	0.2	0.08	0.5	0.9	3.3	0.6	19
F. Accounts Payable (4 items averaged*)								
f	85	0	0	1	1	2	0	22
%	72.	0.0	0.0	0.8	0.8	1.6	0.0	18.2

LEGEND: do not per is do not perform the work activity
hs, phs, job is do perform the work activity which was learned in high school, post-high school or on the job
hs, phs is do perform the work activity which was learned in high school and in post-high school programs
hs, job is do perform the work activity which was learned in high school and on the job
hs is do perform the work activity which was learned in high school
phs, job is do perform the work activity which was learned in post high school and on the job
phs is do perform the work activity which was learned in post high school
job is do perform the work activity which was learned only on the job

	do not per	hs phs job	hs phs	hs job	hs	phs job	phs	job
G. Merchandise Records (7 items averaged*)								
f	98	0	0	.1	0	.4	.28	11
%	83.	0.0	0.0	0.1	0.0	0.36	0.2	9.0
H. Petty Cash (4 items averaged*)								
f	83.5	.75	0	.25	.75	2.5	0	20
%	70.7	0.6	0.0	0.2	0.6	2.1	0.0	17.
I. Payroll (15 items averaged*)								
f	87.2	.07	0	.33	.5	1	1.5	22
%	73.8	0.05	0.0	0.28	0.45	0.9	1.3	18.
J. Financial Statements (9 items averaged*)								
f	99.6	0	0	0	.1	2.8	.3	9
%	84.	0.0	0.0	0.0	0.09	2.4	0.3	7.6
K. General Ledger and General Journal (20 items averaged*)								
f	90.6	.2	.15	.95	.2	3	5.3	14.5
%	76.7	0.16	0.1	0.8	0.16	2.6	4.4	12.2
L. Data Processing (10 items averaged*)								
f	85	0	0	0	0	1.5	.2	21.6
%	72.	0.0	0.0	0.0	0.0	1.27	0.16	18.
M. Miscellaneous (7 items averaged*)								
f	99	.14	0	.42	0	1.7	0	11
%	84.	0.12	0.0	0.36	0.0	1.45	0.0	9.68

Note: The full table is in Appendix I.

LEGEND: do not per is do not perform the work activity
hs, phs, job is do perform the work activity which was learned in high school, post-high school or on the job
hs, phs is do perform the work activity which was learned in high school and in post-high school programs
hs, job is do perform the work activity which was learned in high school and on the job
hs is do perform the work activity which was learned in high school
phs, job is do perform the work activity which was learned in post-high school and on the job
phs is do perform the work activity which was learned in post-high school
job is do perform the work activity which was learned only on the job

JOB EXPERIENCE IS WHAT THE EMPLOYER IS LOOKING FOR

School background and/or training required for the present job of the respondent is explored in Tables 2A, 2B and 2C. In each of the tables a total of 44.9 per cent of the respondents said the training background required by the present employers was job experience.

Each of the tables indicates a very small number reported that their employers required recordkeeping, bookkeeping or accounting background from high school. A total of 9.3 per cent said their employers required some post-high school training.

The Summary of Survey Responses in Appendix II supports the above observations:

1. 64.4 per cent said no recordkeeping was studied in high school (Question 7a);

2. 55.1 per cent indicated no bookkeeping or accounting was studied in high school (Question 7b);

3. 44.9 per cent said job experience was the main background requirement for recordkeeping, bookkeeping or accounting duties (Question 17);

4. 67.8 per cent reported recordkeeping, bookkeeping or accounting skills were not learned in high school (Question 15);

5. 26.3 per cent said the employers required previous formal high school training (Question 25c).

POST HIGH SCHOOL TRAINING ISN'T ALWAYS REQUIRED

Tables 3A and 3B each show that 51.7 per cent of the respondents indicated no post-high school courses were required for employment at their present job by present employers. About half that proportion said they had taken one post-high school course.

Table 2A

RELATIONSHIP BETWEEN SCHOOL BACKGROUND AND TRAINING REQUIRED FOR THE PRESENT JOB

Number of Years High School Recordkeeping		Training Background Required by Present Employer						
		High School	Post-High School	Job Exp	School & Job Exp	Don't Know	No Response	TOTALS
No Response	f	1	2	5	5	3	2	18
	%	10.0	18.2	9.4	26.3	15.0	40.0	15.3
0	f	6	8	37	7	16	2	76
	%	60.0	72.7	69.8	36.8	80.0	40.0	64.4
1	f	2	0	2	3	0	0	7
	%	20.0	0.0	3.8	15.8	0.0	0.0	5.9
2	f	1	0	4	1	1	1	8
	%	10.0	0.0	7.5	5.3	5.0	20.0	6.8
3	f	0	1	4	2	0	0	7
	%	0.0	9.1	7.5	10.5	0.0	0.0	5.9
4	f	0	0	1	1	0	0	2
	%	0.0	0.0	1.9	5.3	0.0	0.0	1.7
TOTALS	f	10	11	53	19	20	5	118
	%	8.5	9.3	44.9	16.1	16.9	4.2	100

THIS TABLE SHOWS: The employer prefers a background of JOB EXPERIENCE for entry-level employees.

Table 2B

RELATIONSHIP BETWEEN SCHOOL BACKGROUND AND TRAINING REQUIRED FOR THE PRESENT JOB

Number of Years High School Bookkeeping and/ or Accounting		Training Background Required by Present Employer						
		High School	Post-High School	Job Exp	School & Job Exp	Don't Know	No Response	TOTALS
No Response	f	1	1	0	1	0	1	4
	%	10.0	9.1	0.0	5.3	0.0	20.0	3.4
0	f	2	7	33	6	15	2	65
	%	20.0	63.6	62.3	31.6	75.0	40.0	55.1
1	f	1	0	7	2	2	0	12
	%	10.0	0.0	13.2	10.5	10.0	0.0	10.2
2	f	3	1	7	4	2	1	18
	%	30.0	9.1	13.2	21.1	10.0	20.0	15.3
3	f	3	2	5	5	1	1	17
	%	30.0	18.2	9.4	26.3	5.0	20.0	14.4
4	f	0	0	1	1	0	0	2
	%	0.0	0.0	1.9	5.3	0.0	0.0	1.7
TOTALS	f	10	11	53	19	20	5	118
	%	8.5	9.3	44.9	16.1	16.9	4.2	100.0

THIS TABLE SHOWS: The employer <u>prefers</u> a background of JOB EXPERIENCE for entry-level employees.

Table 2C

RELATIONSHIP BETWEEN SCHOOL BACKGROUND AND TRAINING REQUIRED FOR THE PRESENT JOB

Number of Years Post-High School Bookkeeping and/or Accounting		Training Background Required by Present Employer						
		High School	Post-High School	Job Exp	School & Job Exp	Don't Know	No Response	TOTALS
No Response	f	0	0	1	0	0	1	2
	%	0.0	0.0	1.9	0.0	0.0	20.0	1.7
0	f	3	1	31	7	14	3	59
	%	30.0	9.1	58.5	36.8	70.0	60.0	50.0
1	f	4	1	14	5	4	0	28
	%	40.0	9.1	26.4	26.3	20.0	0.0	23.7
2	f	1	0	5	6	1	0	13
	%	10.0	0.0	9.4	31.6	5.0	0.0	11.0
3	f	2	0	0	0	1	1	4
	%	20.0	0.0	0.0	0.0	5.0	20.0	3.4
4	f	0	2	1	0	0	0	3
	%	0.0	18.2	1.9	0.0	0.0	0.0	2.5
5 and more	f	0	7	1	1	0	0	9
	%	0.0	63.6	1.9	5.3	0.0	0.0	7.6
TOTALS	f	10	11	53	19	20	5	118
	%	8.5	9.3	44.9	16.1	16.9	4.2	100.0

THIS TABLE SHOWS: The employer prefers a background of JOB EXPERIENCE for entry-level employees.

RELATIONSHIP BETWEEN COURSE BACKGROUND AND BEING HIRED FOR THE PRESENT JOB

Table 3A

Number of Years High School Recordkeeping Studied		Number of Post-High School Courses Taken in Bookkeeping and/or Accounting						
		0	1	2	3	4	5+	TOTALS
No Response	f	9	4	2	1	1	1	18
	%	14.7	14.3	15.4	25.0	33.3	11.1	15.3
0	f	44	16	7	1	0	8	76
	%	72.1	57.1	53.8	25.0	0.0	88.9	64.4
1	f	3	4	0	0	0	0	7
	%	5.1	14.3	0.0	0.0	0.0	0.0	5.9
2	f	3	2	1	2	0	0	8
	%	5.1	7.1	7.7	50.0	0.0	0.0	6.8
3	f	1	2	2	0	2	0	7
	%	1.7	7.1	15.4	0.0	66.7	0.0	5.9
4	f	1	0	1	0	0	0	2
	%	1.7	0.0	7.7	0.0	0.0	0.0	1.7
TOTALS	f	61	28	13	4	3	9	118
	%	51.6	23.7	11.0	3.4	2.5	7.6	100.0

Table 3B

Number of Years High School Bookkeeping/ Accounting Studied		Number of Post-High School Courses Taken in Bookkeeping and/or Accounting						
		0	1	2	3	4	5+	TOTALS
No Response	f	1	2	1	0	0	0	4
	%	1.6	7.1	7.7	0.0	0.0	0.0	3.4
0	f	40	11	6	0	0	8	65
	%	65.5	39.3	46.2	0.0	0.0	88.9	55.1
1	f	4	5	0	2	1	0	12
	%	6.8	17.9	0.0	50.0	33.3	0.0	10.2
2	f	7	6	2	2	1	0	18
	%	11.9	21.4	15.4	50.0	33.3	0.0	15.3
3	f	8	4	3	0	1	1	17
	%	13.6	14.3	23.1	0.0	33.3	11.1	14.4
4	f	1	0	1	0	0	0	2
	%	1.7	0.0	7.7	0.0	0.0	0.0	1.7
TOTALS	f	61	28	13	4	3	9	118
	%	51.7	23.7	11.0	3.4	2.5	7.6	100.0

THIS TABLE SHOWS: Post-High School training isn't always required for entry-level employees.

THE QUESTION: TO WHAT EXTENT DO EMPLOYMENT AND ADVANCEMENT IN RECORDKEEPING, BOOKKEEPING AND/OR ACCOUNTING POSITIONS DEPEND ON FORMAL HIGH SCHOOL TRAINING IN RECORDKEEPING, BOOKKEEPING AND/OR ACCOUNTING?

Employment and advancement opportunities depend very little upon the formal high school training in recordkeeping, bookkeeping and/or accounting skills according to results from the survey.

Summary of School Background Relationship to Being Hired, on the following pages, summarizes the school background as a pre-requisite for securing employment.

A total of 79.7 per cent of the respondents had no background in high school recordkeeping.

A total of 58.5 per cent of the respondents had no background in high school bookkeeping or accounting.

However, 41.6 per cent said they had taken one or more years of high school bookkeeping.

FEW RESPONDENTS CONTINUED TO TAKE COURSES AFTER HIGH SCHOOL

More than one-half of the respondents had no post-high school bookkeeping or accounting courses, although 23.7 per cent said they had taken one course.

Very few respondents continued post-high school education in recordkeeping, bookkeeping and accounting in private business school, vocational college, an institute of technology, a community college or university.

PROMOTION OPPORTUNITIES DON'T DEPEND UPON HIGH SCHOOL COURSES

It seems to make no difference whether or not a respondent had a background in high school recordkeeping, bookkeeping or accounting in promotion opportunities.

Tables 5A and 5B on page 16 show no correlation between respondents without a background in high school recordkeeping, bookkeeping and/or accounting who were promoted, and those who had a background in recordkeeping, bookkeeping and accounting, but who were not promoted.

Table 4

SUMMARY: SCHOOL BACKGROUND RELATIONSHIP TO BEING HIRED FOR THE PRESENT JOB*

		Number of Years of High School Recordkeeping					
		0	1	2	3	4	TOTALS
TOTALS	f	94	7	8	7	2	118
	%	79.7	5.9	6.8	5.9	1.7	100.0

		Number of Years of High School Bookkeeping					
		0	1	2	3	4	TOTALS
TOTALS	f	69	12	18	17	2	118
	%	58.5	10.2	15.3	14.4	1.7	100.0

		Number of Post-High School Bookkeeping/Accounting Courses						
		0	1	2	3	4	5	TOTALS
TOTALS	f	61	28	13	4	3	9	118
	%	51.7	23.7	11.0	3.4	2.5	7.6	100.0

		Number of Years Attendance at Private Business School						
		0	1	2	3	4	5	TOTALS
TOTALS	f	107	3	7		1		118
	%	90.7	2.5	5.9		0.8		100.0

		Number of Years Attendance at Vocational College						
		0	1	2	3	4	5	TOTALS
TOTALS	f	115	2	2		1		118
	%	97.5	1.7	1.7		0.8		100.0

		Number of Years Attendance at Institute of Technology							
		0	1	2	4	6	7	8	TOTALS
TOTALS	f	99	6	3	7	1	1	1	118
	%	83.9	5.1	2.5	5.9	0.8	0.8	0.8	100.0

		Number of Years Attendance at Community College							
		0	1	2	3	4	5	6	TOTALS
TOTALS	f	100	4	6	1	6		1	118
	%	84.7	3.4	5.1	0.8	5.1		0.8	100.0

		Number of Years Attendance at a University						
		0	1	2	4	6	7	TOTALS
TOTALS	f	98	3	5	3	1	8	118
	%	83.1	2.5	4.2	3.5	0.8	6.8	100.0

* Full tables are in Appendix I, Tables 2A-H.

Table 5A

RELATIONSHIP BETWEEN SCHOOL BACKGROUND AND PROMOTION ON THE PRESENT JOB

Has Been Promoted at Present Employment		Number of Years High School Recordkeeping					
		0	1	2	3	4	TOTALS
No Response	f	3	0	1	0	0	4
	%	3.0	0.0	12.5	0.0	0.0	3.4
Yes	f	44	4	3	2	0	53
	%	47.0	57.1	37.5	28.6	0.0	44.9
No	f	47	3	4	5	2	61
	%	50.0	42.9	50.0	71.4	28.6	51.7
TOTALS	f	94	7	8	7	2	118
	%	79.7	5.9	6.8	5.9	1.7	100.0

Table 5B

RELATIONSHIP BETWEEN SCHOOL BACKGROUND AND PROMOTION ON THE PRESENT JOB

Has Been Promoted at Present Employment		Number of Years High School Bookkeeping/Accounting					
		0	1	2	3	4	TOTALS
No Response	f	2	0	1	1	0	4
	%	3.0	0.0	5.6	5.9	0.0	3.4
Yes	f	31	4	10	8	0	53
	%	45.0	33.3	55.6	47.1	0.0	44.9
No	f	36	8	7	8	2	61
	%	52.1	66.7	38.9	47.1	100.0	51.7
TOTALS	f	69	12	18	17	2	118
	%	58.5	10.2	15.3	14.4	1.7	100.0

QUESTION: WHAT RECORDKEEPING, BOOKKEEPING, AND/OR ACCOUNTING ACTIVITIES OF ENTRY-LEVEL EMPLOYEES ARE NOT INCLUDED WITHIN THE ALBERTA SCHOOL CURRICULUM, PARTICULARLY THOSE CONCERNED WITH THE COMPUTERIZATION OF FINANCIAL DATA?

There was virtually no computer training program in Alberta schools when this survey was undertaken. However, questions 30 and 133 in the questionnaire gave respondents an opportunity to answer what work activities were not included within the Alberta school curriculum, particularly those concerned with the computerization of financial data.

More than one-half (55.1 per cent) of the respondents said the computer was used to generate bookkeeping and accounting records for general ledger/posting work activities. This is shown in the Summary of Survey Responses, Appendix II, question 30.

Fewer than one-half of the respondents used a computer for other financial data work activities such as financial statements and reports, documents (claims, job costing, work orders), and banking services, etc.

In the same Summary, question 29 sought to learn what office machines were operated by respondents in their work.

A total of 8.5 per cent said computer terminals were used by them for an average period of 16 hours in a typical week.

No responses were made relating to computer activities in Question 133 in the Summary of Survey Responses.

QUESTION: WHAT DIFFERENCES IN RECORDKEEPING, BOOKKEEPING AND/OR ACCOUNTING ACTIVITIES OF ENTRY-LEVEL EMPLOYEES, IF ANY, ARE ASSOCIATED WITH THE TYPE AND SIZE OF BUSINESS FIRMS?

The survey shows few differences in work activities of entry-level employees associated with the different types and sizes of business firms. As shown in responses and tables which answered the first question of this study, respondents in different kinds and sizes of businesses generally did not perform recordkeeping, bookkeeping or accounting work activities taught in the high school.

WORK ACTIVITIES LEARNED IN HIGH SCHOOL

Those who worked in Agriculture performed "Accounts Receivable" and "Cash Disbursement" activities which they could have learned in high school. Those who worked in Manufacturing performed "Cash Disbursement" activities as well.

The Summary of the Average Number of Job Activities Performed on the Present Job According to Type and Size of Business, on the following pages, show that on average few recordkeeping, bookkeeping and accounting job activities learned in high school were performed on the job, regardless of how large or what kind of business the respondent worked for.

KINDS OF WORK ACTIVITIES DONE ON THE JOB

Certain work activities were cross-referenced in the study in order to discover whether or not different kinds of job activities were different if the size of business were different.

The Relationship Between Types of Work Activities and Size of Firm, Table 7, shows that respondents overwhelmingly do the following work activities in their businesses, regardless of the size of firm:

1. Post manually or by computer to general ledger;
2. Post to one or more subsidiary ledgers;
3. Post to one or more subsidiary ledger accounts receivable;
4. Post to one or more subsidiary ledger accounts payable;
5. Post to one or more subsidiary ledgers (other).

Table 6

SUMMARY OF THE AVERAGE NUMBER OF JOB ACTIVITIES PERFORMED ON THE PRESENT JOB ACCORDING TO TYPE AND SIZE OF BUSINESS*

Each category of work activities is a generalized average of activities performed.

		Agriculture	Mines, Quarries, Oil Wells	Manufacturing	Construction	Transportation	Trade	Finance	Industry
Sales or Services Rendered	%	29	14	42	20	12	47	12	22
Cash Receipts	%	23	3	20	15	5	28	14	31
Accounts Payable	%	56	0	69	37	13	43	31	43
Purchases or Services Rendered	%	8	17	37	21	10	32	15	18
Cash Disbursements	%	67	21	55	39	2	36	22	41
Accounts Payable	%	50	0	37	43	3	42	17	17
Merchandise Records	%	0	10	14	14	13	14	10	2
Petty Cash	%	37	33	29	22	1	41	31	36
Payroll	%	27	31	43	29	3	36	9	44
Financial Statements	%	39	7	6	16	4	14	8	18
General Ledger and General Journal	%	26	25	12	27	10	18	20	31
Data Processing	%	5	40	0	31	33	18	17	18
Miscellaneous	%	21	0	29	16	2	16	11	26

*Note: The full table is Table 3, Appendix III.

Table 7

RELATIONSHIP BETWEEN THE TYPES OF WORK ACTIVITIES AND SIZE OF FIRM

Work Activity		Total Number of Employees in Firm							
		0	1-5	6-15	16-25	26-50	51-100	101+	TOTALS
Post Manually/ by Computer to General Ledger	f/118	1	6	11	9	5	2	65	99
	%/100	1.	6.	11.	9.	5.	2.	65.6	100.0
Post to one or more subsidiary Ledger	f/118	1	5	10	7	4	2	65	94
	%/100	1.	5.	11.	7.	4.	2.	69.	100.0
Post to Subsidiary Ledger: Accounts Receivable	f/118	1	10	16	9	5	2	65	108
	%/100	1.	9.	15.	8.	5.	2.	60.	100.0
Post to Subsidiary Ledger: Accounts Payable	f/118	1	11	13	5	3	2	62	97
	%/100	1.	11.	13.	5.	3.	2.	64.	100.0
Post to Subsidiary Ledger: Other	f/118	1	10	17	7	4	1	64	104
	%100	1.	10.	16.	7.	4.	1.	62.	100.0

WHERE WERE THE WORK ACTIVITIES LEARNED?

A total of 67.8 per cent of the respondents from businesses of all sizes indicated that they felt their recordkeeping, bookkeeping or accounting skills were not learned in high school (Table 8A, which follows).

No post-high school training was necessary for learning their job activities said 61.9 per cent of the respondents (Table 8B).

IT SHOULD BE NOTED:

1. 61.1 per cent of the respondents have worked at their present employment for two years and less (Table 4, Appendix III).

2. The ages of the respondents averaged about one-half in number in the 16-24 age category and about one-half in the 25+ age category. See Table 5, Appendix III.

Table 8A

RELATIONSHIP BETWEEN SCHOOL BACKGROUND AND SIZE OF FIRM

Learned R/B/A Activities in High School		Total Number of Employees in Firm						
		1-5	6-15	16-25	26-50	51-100	101+	TOTALS
No Response	f	1	0	0	0	0	0	1
	%	9.1	0.0	0.0	0.0	0.0	0.0	0.8
Entirely	f	0	2	1	0	0	0	3
	%	0.0	10.5	11.1	0.0	0.0	0.0	2.5
Mostly	f	1	0	0	0	0	5	6
	%	9.1	0.0	0.0	0.0	0.0	7.0	5.1
Partly	f	1	2	1	1	1	22	28
	%	9.1	10.5	11.1	20.0	50.0	31.0	23.7
Not at All	f	9	15	7	4	1	44	80
	%	72.7	78.9	77.8	80.0	50.0	62.0	67.8
TOTALS	f	11	19	9	5	2	71	118
	%	9.3	16.1	7.6	4.2	1.7	60.2	100.0

Table 8B

Learned R/B/A Activities in Post-High School		Total Number of Employees in Firm						
		1-5	6-15	16-25	26-50	51-100	101+	TOTALS
No Response	f	1	0	0	0	0	4	5
	%	9.1	0.0	0.0	0.0	0.0	5.6	4.2
Entirely	f	0	0	0	1	0	1	2
	%	0.0	0.0	0.0	20.0	0.0	1.4	1.7
Mostly	f	1	1	0	0	2	8	12
	%	9.1	5.3	0.0	0.0	100.0	11.3	10.2
Partly	f	3	5	2	3	0	13	26
	%	27.3	26.3	22.2	60.0	0.0	18.3	22.0
Not at All	f	7	13	7	1	0	45	73
	%	54.5	68.4	77.8	20.0	0.0	63.4	61.9
TOTALS	f	12	19	9	5	2	71	118
	%	10.1	16.1	7.6	4.2	1.7	60.2	100.0

CONCLUSIONS

1. An overwhelming majority of the respondents do not perform the recordkeeping, bookkeeping or accounting skills taught to them in Alberta high schools.

2. A very small number of respondents reported that their employers required recordkeeping, bookkeeping or accounting background from high school. Job experience is what the employer is looking for.

3. Post-high school training isn't always required for entry-level employees.

4. Employment and advancement opportunities depend very little upon the formal high school training in recordkeeping, bookkeeping and/or accounting skills.

5. More than one-half of the respondents reported the use of computers for financial data work activities, but only 8.5 per cent said they used them to carry out their duties on the job.

6. Few skills in recordkeeping, bookkeeping and accounting were learned in high school and then performed on the job, regardless of the type and size of the business for which the respondent worked.

RECOMMENDATIONS

It is recommended that:

1. the Accounting Curriculum be revised, including the credit weightings.

2. the Accounting Curriculum be re-structured, preferably to a format which would enable both a more flexible scheduling and a more regular updating of the course content, therefore, making it more readily available to all students and avoiding long delays between curriculum reviews;

3. the course content of the Accounting Curriculum reflect current practices;

4. the equipment used within the Accounting Curriculum reflect current technology;

5. the membership of Business Education Curriculum Committees consist of representatives from business, teaching specialists, and subject specialists;

6. similar studies be regularly undertaken in this and all other Business Education subject areas.

APPENDICES

APPENDIX I

Table 1

Summary of

DETAILS OF PRESENT JOB ACTIVITIES

Summary of Where Present Job Activities were Learned

	no res	do not per	hs phs job	hs phs	hs job	hs	phs hob	phs	job	yes not ind
(A) Sales or Services Rendered										
1. Do you decide or help to decide to whom credit should be extended?	5	92	0	0	0	0	1	0	19	1
2. Do you keep records of merchandise stock numbers sold or types of services rendered?	5	84	0	0	1	0	1	0	23	4
3. Do you list (by salesman, week, territory, or type of service) customers, subscribers, clients or patients?	7	80	0	0	0	1	1	0	27	2
4. Do you prepare sales invoices or bills for services rendered?	5	79	0	0	0	1	3	0	29	1
5. Do you prepare credit memos?	4	85	0	0	0	1	4	0	23	1
6. Do you keep records of sales taxes charged?	9	93	0	0	0	0	1	0	15	0
7. Do you calculate amounts (such as extensions, discounts, allowances, deductions, taxes or freight charges) for recording on sales invoices or bills?	5	79	0	0	3	0	3	0	27	1
8. Do you list and/or total sales invoices, bills or credit memos?	5	65	1	0	4	2	4	0	35	2
9. Do you make entries in a sales journal or a journal for services rendered?	5	85	1	0	0	1	5	0	19	2
10. Do you record C.O.D. sales in a journal?	7	94	0	0	0	0	1	0	16	0
11. Do you make entries in a sales returns and allowances journal?	6	104	0	0	0	0	0	0	8	0
12. Do you calculate salesmen's commissions or expenses?	7	86	1	0	0	0	1	0	23	0
(B) Cash Receipts										
13. Do you calculate discounts, allowances, or partial payments before incoming cheques are recorded?	6	92	0	0	0	0	1	1	18	0
14. Do you calculate payments received as grants or budgetary allocations?	8	98	1	0	0	0	1	0	8	2
15. Do you enter incoming cheques in a cash receipts journal?	5	74	0	0	1	2	4	0	31	1
16. Do you record bank deposits in a cash receipts journal?	5	71	0	0	1	2	4	0	33	2
17. Do you start each month's cash receipts journal with a cash balance from the previous month?	6	93	0	0	1	0	3	1	14	0
18. Do you total cash receipts records, registers or journals?	5	74	0	0	2	1	3	1	30	2
19. Do you make journal entries for cash received on instalment sales?	9	91	0	0	0	1	2	1	13	1
20. Do you use a cash register?	7	104	0	0	0	0	0	0	6	1

Summary of

DETAILS OF PRESENT JOB ACTIVITIES (cont'd)

Summary of Where Present Job Activities were Learned

	no res	do not per	hs phs job	hs phs	hs job	hs	phs job	phs	job	yes not ind
21. Do you count cash received or prove correctness of cash on hand with totals in a cash register?	7	97	0	0	0	0	2	0	11	1
22. Do you keep records of sales taxes collected?	8	104	0	0	0	0	0	0	6	0
23. Do you collect cash from two or more registers and record the totals?	7	101	0	0	1	0	1	0	8	0
24. Do you keep records of expenses, purchases or drawings paid for by cash taken from daily receipts?	6	99	0	0	1	0	1	1	19	1
25. Do you make entries for discounting notes payable?	9	104	0	0	0	0	1	0	4	0
(C) Accounts Receivable										
26. Do you record and/or post invoices, bills or credit memos to accounts of customers, subscribers, patients, clients, grantors, etc.?	8	67	0	0	1	1	6	0	35	0
27. Do you post payments received to clients accounts?	5	72	0	0	0	1	5	0	34	1
28. Do you key off or letter off entries in accounts?	7	91	0	0	1	1	3	0	14	1
29. Do you find balances in accounts?	5	65	0	0	1	1	3	0	41	2
30. Do you prepare statements of accounts?	5	78	0	0	0	1	2	0	31	1
31. Do you list or prepare schedules of end-of-month balances of accounts?	6	76	0	0	0	1	4	0	31	0
32. Do you age accounts receivable (to identify how long they are overdue)?	6	80	0	0	0	2	3	0	27	0
33. Do you keep records of accounts written off as bad debts?	7	78	0	0	0	1	5	0	27	0
(D) Purchases or Services Rendered										
34. Do you prepare purchase orders or requisitions?	7	81	0	0	1	0	0	0	28	1
35. Do you compare merchandise or services rendered with purchase invoices or bills received?	7	77	0	0	1	0	1	1	30	1
36. Do you code purchase invoices or bills received to indicate the nature of the purchase or services?	6	75	1	0	0	0	1	0	35	0
37. Do you record purchase quantitites on inventory, stock, or open-to-buy records?	7	96	0	0	0	0	0	0	15	0
38. Do you compare the total of purchase invoices or expense vouchers with amounts budgeted for them?	9	89	0	0	1	0	1	0	15	3
39. Do you prepare credit slips for returned purchases or for errors on purchase invoices?	6	95	0	0	1	1	0	0	14	1
40. Do you calculate due dates on purchase invoices, vouchers or bills received?	7	86	0	0	0	1	0	0	23	1

Summary of

DETAILS OF PRESENT JOB ACTIVITIES (cont'd)

Summary of Where Present Job ACtivities were Learned

	no res	do not per	hs phs job	hs phs	hs job	hs	phs job	phs	job	yes not ind
41. Do you prepare vouchers for incoming purchases or contracted services?	7	101	0	0	0	0	0	0	10	0
42. Do you enter purchases or bills for services in a purchases journal or journal for services received?	8	92	0	0	0	0	0	0	17	1
43. Do you make entries in a journal that has departmental column headings?	8	93	1	0	0	0	2	0	13	1
44. Do you enter vouchers in a voucher register?	7	100	0	0	0	0	0	0	11	0
45. Do you make entries in a purchase returns journal?	8	109	0	0	0	0	0	0	0	1
(E) Cash Disbursements										
46. Do you prepare stubs and cheques for cash disbursements?	7	64	1	1	2	1	5	0	36	1
47. Do you code cheques or stubs by function?	7	81	1	0	1	0	4	0	24	0
48. Do you enter issued cheques in a cash payments journal?	7	82	1	0	1	0	3	0	22	2
49. Do you make entries in a cheque register that is part of a voucher system?	9	98	0	0	0	2	0	0	9	0
50. Do you verify correctness of cash journals by comparing balances in journals with balances in a cheque book?	8	88	0	0	0	0	2	1	19	0
51. Do you make entries relating to operating expenses such as rent, telephone, electricity, etc.?	6	72	0	0	0	1	4	1	31	3
52. Do you make entries for proprietor's personal drawings?	8	89	0	0	0	0	3	1	16	1
53. Do you reconcile the bank statement balance with the cheque book or cash journal balance?	6	67	0	0	1	3	9	2	27	3
54. Do you make entries for bank charges and collection charges?	7	69	0	0	1	3	7	1	27	3
55. Do you use a pegboard or other "one-write" system for cash receipts or cash payments?	7	98	0	0	0	1	0	0	11	1
56. Do you make entries in journals for collection or payment of notes receivable or notes payable?	8	90	0	0	0	0	2	2	14	1
(F) Accounts Payable										
57. Do you post purchase or return amounts in creditors' or vendors' accounts?	6	89	0	0	2	0	1	0	19	1
58. Do you post to creditors' accounts the amounts of cash paid to them?	7	87	0	0	2	1	2	0	18	1

Summary of

DETAILS OF PRESENT JOB ACTIVITIES (cont'd)

Summary of Where Present Job Activities were Learned

		no res	do not per	hs phs job	hs phs	hs job	hs	phs job	phs	job	yes not ind
59.	Do you compare statements received from creditors with balances in their accounts?	6	72	0	0	0	3	4	0	32	1
60.	Do you list or prepare schedules for end-of-month balances in creditors' accounts?	6	93	0	0	0	0	1	0	17	1
(G)	Merchandise Records										
61.	Do you keep cost records (such as standard costs, production costs, etc.) for manufacturing departments?	7	92	0	0	0	0	3	1	13	2
62.	Do you prepare charge slips to subcontractors for merchandise sent to them?	8	107	0	0	0	0	0	0	3	0
63.	Do you keep records of merchandise and money received from or due to subcontractors?	8	93	0	0	0	0	0	1	16	0
64.	Do you prepare charge slips or credit slips for merchandise shipped to or from branches or subsidiaries?	8	106	0	0	0	0	0	0	3	1
65.	Do you make journal entries for merchandise shipped or received on consignment?	8	105	0	0	0	0	0	0	4	1
66.	Do you price and/or total merchandise for physical inventory?	7	91	0	0	1	0	0	0	18	1
67.	Do you compare physical inventory count with inventory or stock records?	7	93	0	0	0	0	0	0	18	0
(H)	Petty Cash										
68.	Do you prepare petty cash slips or vouchers?	9	70	1	0	0	1	4	0	29	4
69.	Do you enter petty cash slips or vouchers in a petty cash book or journal?	5	89	1	0	0	0	1	0	18	4
70.	Do you post directly from the petty cash journal to the general ledger?	6	99	0	0	0	1	1	0	9	2
71.	Are you responsible for maintaining the petty cash box or drawer?	5	76	1	0	1	1	4	0	25	5
(I)	Payroll										
72.	Do you prepare time cards for employees?	5	92	0	0	0	1	0	2	18	0
73.	Do you calculate the time worked by employees?	5	78	0	0	0	1	1	0	32	1
74.	Do you calculate gross earnings of employees?	4	69	1	0	1	2	3	0	35	3
75.	Do you calculate piecework earnings by employees?	6	98	0	0	1	1	0	0	12	0
76.	Do you calculate payroll deductions for taxes, U.I.C., C.P.P., hospitalization, etc.?	4	74	0	0	1	1	3	1	32	2

Summary of

DETAILS OF PRESENT JOB ACTIVITIES (cont'd)

Summary of Where Present Job Activities were Learned

	no res	do not per	hs phs job	hs phs	hs job	hs	phs job	phs	job	yes not ind
77. Do you enter payroll information in a payroll book or register?	4	80	0	0	0	1	2	1	29	1
78. Do you record payroll entries in a cash payments journal?	6	93	0	0	0	0	0	0	16	3
79. Do you post directly from the payroll journal to the general ledger?	4	94	0	0	0	0	1	0	18	1
80. Do you enter payroll information on the earnings records of individual employees?	4	80	0	0	0	1	2	1	28	2
81. Do you prepare forms for depositing employees' and employer's payroll taxes at the bank?	4	95	0	0	1	1	1	0	15	1
82. Do you make journal entries for depositing employees' and employer's payroll taxes at the bank?	6	92	0	0	0	0	1	0	18	1
83. Do you total the earnings records of individual employees at the end of each month?	4	92	0	0	1	0	2	0	19	1
84. Do you prepare quarterly payroll tax reports for federal, provincial, or municipal governments?	6	108	0	0	0	1	1	0	2	0
85. Do you total the earnings records of employees for the year?	4	84	0	0	0	1	3	0	23	3
86. Do you prepare information for employees' T-4, T-42, T-5, etc. forms?	4	79	0	0	0	1	3	1	27	3
(J) Financial Statements										
87. Do you prepare sales or commercial rent tax returns?	6	108	0	0	0	0	0	0	4	0
88. Do you prepare trial balances?	5	85	0	0	0	1	5	2	20	0
89. Do you prepare work sheets for balance sheets or income statements?	6	92	0	0	0	0	5	1	14	0
90. Do you prepare a post-closing trial balance?	5	103	0	0	0	0	2	0	8	0
91. Do you prepare balance sheets or income statements?	6	90	0	0	0	0	6	0	14	2
92. Do you prepare comparative balance sheets or comparative income statements?	6	102	0	0	0	0	4	0	6	0
93. Do you prepare income tax or franchise tax returns for your employer?	6	107	0	0	0	0	1	0	4	0
94. Do you use financial statements as a basis for preparing current ratios, working capital or merchandising turnover?	6	101	0	0	0	0	3	0	7	1
95. Do you calculate the distribution of net profits for a partnership?	6	108	0	0	0	0	0	0	4	0

Summary of

DETAILS OF PRESENT JOB ACTIVITIES (cont'd)

Summary of Where Present Job Activities were Learned

		no res	do not per	hs phs job	hs phs	hs job	hs	phs job	phs	job	yes not ind
(K)	General Ledger and General Journal										
96.	Do you keep records or accounts for mortgage interest and principal?	7	95	1	0	0	0	3	0	11	1
97.	Do you record entries in the general ledger?	6	73	1	1	2	0	6	2	25	2
98.	Do you record entries in the general journal for appropriations granted to your department or fund?	8	102	0	0	1	0	1	0	5	1
99.	Do you make entries in the general journal for anticipated revenues for your department or fund?	6	106	0	0	1	0	0	0	5	0
100.	Do you post from the general journal to the general ledger?	7	94	0	0	1	1	3	1	10	1
101.	Do you record notes receivable or notes payable in the general journal or other journals?	6	94	0	0	2	0	3	1	11	1
102.	Do you record entries relating to interest income or interest expense?	6	89	0	0	1	0	4	2	14	2
103.	Do you reconcile accounts receivable or accounts payable with general ledger accounts?	6	73	0	0	1	1	5	1	31	0
104.	Do you record payroll entries in the general journal?	6	81	0	0	1	1	3	1	23	2
105.	Do you reconcile payroll records with general ledger accounts?	15	77	0	0	0	1	1	1	22	1
106.	Do you prepare adjusting entries for bad debts or depreciation?	5	96	0	0	0	0	4	1	11	1
107.	Do you make adjusting entries for accrued expenses (unpaid salaries, etc.)?	6	92	0	0	0	0	5	1	14	0
108.	Do you prepare adjusting entries for deferred expenses (unexpired insurance, supplies on hand, etc.)?	6	101	0	0	0	0	4	0	7	0
109.	Do you make adjusting entries for accrured or deferred income?	6	105	0	0	0	0	2	1	4	0
110.	Do you make formal correction entries (such as reversal entries, etc.) in the journals and ledgers when mistakes are made?	6	55	1	0	4	0	9	1	39	3
111.	Do you make entries for recovery of bad debts previously written off?	6	96	1	0	1	0	3	0	10	1
112.	Do you keep drawing and capital accounts for an individual proprietorship or partnership?	7	105	0	0	0	0	1	1	4	0
113.	Do you make entries for earnings and dividends in capital stock, retained earnings, and other capital accounts?	6	106	0	0	0	0	1	1	4	0

Summary of

DETAILS OF PRESENT JOB ACTIVITIES

Summary of Where Present Job Activities were Learned

		no res	do not per	hs phs job	hs phs	hs job	hs	phs job	phs	job	yes not ind
114.	Do you make entries to close income and expense accounts at the end of the fiscal year?	5	94	0	1	1	0	0	1	15	1
115.	Do you make, if necessary, reversal entries in the general journal?	6	77	0	1	3	0	5	1	24	1
(L)	Data Processing										
116.	Do you make calculations in connection with entering financial data on coding or input sheets for data processing?	6	80	0	0	0	0	1	0	31	0
117.	Do you enter financial data on coding/input forms for data processing?	6	79	0	0	0	0	2	0	30	1
118.	Do you compare data processing coding/input forms with original bookkeeping and business papers?	6	85	0	0	0	0	2	0	24	1
119.	Do you enter coding information on business papers in preparation for data processing?	6	76	0	0	0	0	3	1	31	1
120.	Do you compare or balance data processing printouts with original business papers?	5	80	0	0	0	0	2	0	30	1
121.	Do you enter corrections on coding/input forms for data processing?	6	77	0	0	0	0	3	1	30	1
122.	Do you enter inventory information on coding forms?	7	101	0	0	0	0	0	0	10	0
123.	Do you examine data processing records to verify complaints?	6	85	0	0	0	0	1	0	25	1
124.	Do you examine data processing records to find requested information?	6	78	0	0	0	0	1	0	32	1
125.	Do you prepare flow charts for data processing systems?	6	109	0	0	0	0	0	0	3	0
(M)	Miscellaneous										
126.	Do you keep a register of your organization's insurance policies?	4	91	0	0	0	0	2	0	20	1
127.	Do you file claims for losses covered by insurance?	3	98	0	0	0	0	1	0	16	0
128.	Do you calculate amounts of interest income on interest expense?	4	97	1	0	1	0	4	0	10	1
129.	Do you record entries in notes receivable or note payable registers?	4	102	0	0	0	0	0	0	12	0
130.	Do you keep a subsidiary ledger or other record for plant, equipment or other fixed assets?	5	97	0	0	1	0	3	0	12	0
131.	Do you keep subsidiary ledgers for individual grants or appropriations?	5	110	0	0	1	0	0	0	2	0
132.	Do you make entries in journals that differ from their column headings (double posting, negative entries, etc.)?	7	99	0	0	0	0	2	0	8	2

* Table 1, Appendix I

Legend:

no res	no response
do not per	do not perform the activity
hs, phs, job	job performed, but learned in high school, post high school, and on the job
hs, phs	job performed, but learned in high school or post-high school
hs, job	job performed, but learned in high school or on the job
hs	job performed, and learned in high school
phs, job	job performed, but learned in post-high school and on the job
phs	job performed, but learned in post-high school
job	job performed, but learned on the job
yes no ind	whether or not the activity was performed was not indicated on the survey

APPENDIX I

Table 2A

SCHOOL BACKGROUND RELATIONSHIP TO BEING HIRED FOR THE PRESENT JOB

Total Number of Years Employed in Recordkeeping Field		Number of Years of High School Recordkeeping					
		0	1	2	3	4	TOTALS
No Response	f	55	2	3	3	0	63
	%	58.5	28.6	37.5	42.9	0.0	53.4
0	f	4	0	0	0	0	4
	%	4.2	0.0	0.0	0.0	0.0	3.4
1/2	f	2	0	1	0	0	3
	%	2.1	0.0	12.5	0.0	0.0	2.5
1	f	1	0	0	0	0	1
	%	1.3	0.0	0.0	0.0	0.0	0.8
1 1/2	f	4	0	0	0	0	4
	%	5.3	0.0	0.0	0.0	0.0	3.4
2	f	3	0	2	0	0	5
	%	3.9	0.0	25.0	0.0	0.0	4.2
2 1/2	f	2	1	1	1	0	5
	%	2.6	14.3	12.5	14.3	0.0	4.2
3	f	2	1	0	0	0	3
	%	2.1	14.3	0.0	0.0	0.0	2.5
4	f	9	0	1	0	0	10
	%	9.6	0.0	12.5	0.0	0.0	8.5
5 and more	f	12	3	0	3	2	20
	%	12.8	42.9	0.0	42.9	100.0	16.9
TOTALS	f	94	7	8	7	2	118
	%	79.7	5.9	6.8	5.9	1.7	100.0

Table 2B

SCHOOL BACKGROUND RELATIONSHIP TO BEING HIRED FOR THE PRESENT JOB

Total Number of Years Employed in Bookkeeping Field		Number of Years of High School Bookkeeping					
		0	1	2	3	4	TOTALS
No Response	f	42	4	10	7	0	63
	%	60.9	33.3	55.6	41.2	0.0	53.4
0	f	2	0	0	2	0	4
	%	2.9	0.0	0.0	11.8	0.0	3.4
1/2	f	1	2	0	0	0	3
	%	1.4	16.7	0.0	0.0	0.0	2.5
1	f	1	0	0	0	0	1
	%	1.4	0.0	0.0	0.0	0.0	0.8
1 1/2	f	3	0	1	0	0	4
	%	4.3	0.0	5.6	0.0	0.0	3.4
2	f	3	0	2	0	0	5
	%	4.3	0.0	11.1	0.0	0.0	4.2
2 1/2	f	2	0	2	1	0	5
	%	2.9	0.0	11.1	5.9	0.0	4.2
3	f	1	0	1	1	0	3
	%	1.4	0.0	5.6	5.9	0.0	2.5
4	f	5	2	0	3	0	10
	%	7.2	16.7	0.0	17.6	0.0	8.5
5 and more	f	9	4	2	3	2	20
	%	13.0	33.3	11.1	17.6	100.0	16.9
TOTALS	f	69	12	18	17	2	118
	%	58.5	10.2	15.3	14.4	1.7	100.0

Table 2C

SCHOOL BACKGROUND RELATIONSHIP TO BEING HIRED FOR THE PRESENT JOB

Total Number of Years Employed in Bookkeeping Field		Number of Post-High School Bookkeeping and/or Accounting Courses						
		0	1	2	3	4	5	TOTALS
No Response	f	39	11	4	2	2	5	63
	%	63.9	39.3	30.8	50.0	66.7	55.6	53.4
0	f	3	0	1	0	0	0	4
	%	4.3	0.0	7.7	0.0	0.0	0.0	3.4
1/2	f	0	0	1	2	0	0	3
	%	0.0	0.0	7.7	50.0	0.0	0.0	2.5
1	f	1	0	0	0	0	0	1
	%	1.5	0.0	0.0	0.0	0.0	0.0	0.8
1 1/2	f	2	0	1	0	0	1	4
	%	3.0	0.0	7.7	0.0	0.0	11.1	3.4
2	f	2	3	0	0	0	0	5
	%	3.0	10.7	0.0	0.0	0.0	0.0	4.2
2 1/2	f	1	3	1	0	0	0	5
	%	1.5	10.7	7.7	0.0	0.0	0.0	4.2
3	f	1	2	0	0	0	0	3
	%	1.5	7.1	0.0	0.0	0.0	0.0	2.5
4	f	6	2	1	0	0	1	10
	%	10.0	7.1	7.7	0.0	0.0	11.1	8.5
5 and more	f	6	7	4	0	1	2	20
	%	10.0	25.0	30.8	0.0	33.3	22.2	16.9
TOTALS	f	61	28	13	4	3	9	118
	%	51.7	23.7	11.0	3.4	2.5	7.6	100.0

Table 2D

SCHOOL BACKGROUND RELATIONSHIP TO BEING HIRED FOR THE PRESENT JOB

Total Number of Years Employed in Bookkeeping Field		Number of Years Attendance at Private Business School					
		0	1	2	3	4	TOTALS
No Response	f	60	1	2		0	63
	%	56.1	33.3	28.6		0.0	53.4
0	f	4	0	0		0	4
	%	3.7	0.0	0.0		0.0	3.4
1/2	f	2	0	1		0	3
	%	1.9	0.0	14.3		0.0	2.5
1	f	1	0	0		0	1
	%	0.9	0.0	0.0		0.0	0.8
1 1/2	f	4	0	0		0	4
	%	3.7	0.0	0.0		0.0	3.4
2	f	4	0	0		1	5
	%	3.7	0.0	0.0		100.0	4.2
2 1/2	f	4	1	0		0	5
	%	3.7	33.3	0.0		0.0	4.2
3	f	2	1	0		0	3
	%	1.9	33.3	0.0		0.0	2.5
4	f	9	0	1		0	10
	%	8.4	0.0	14.3		0.0	8.5
5 and more	f	17	0	3		0	20
	%	15.9	0.0	42.9		0.0	16.9
TOTALS	f	107	3	7		1	118
	%	90.7	2.5	5.9		0.8	100.0

Table 2E

SCHOOL BACKGROUND RELATIONSHIP TO BEING HIRED FOR THE PRESENT JOB

Total Number of Years Employed in Bookkeeping Field		Number of Years Attendance at Vocational College					
		0	1	2	3	4	TOTALS
No Response	f	62	1	0		0	63
	%	52.5	50.0	0.0		0.0	53.4
0	f	4	0	0		0	4
	%	3.5	0.0	0.0		0.0	3.4
1/2	f	2	0	1		0	3
	%	1.8	0.0	50.0		0.0	2.5
1	f	1	0	0		0	1
	%	0.9	0.0	0.0		0.0	0.8
1 1/2	f	4	0	0		0	4
	%	3.5	0.0	0.0		0.0	3.4
2	f	4	1	0		0	5
	%	3.5	50.0	0.0		0.0	4.2
2 1/2	f	5	0	0		0	5
	%	4.4	0.0	0.0		0.0	4.2
3	f	3	0	0		0	3
	%	2.7	0.0	0.0		0.0	2.5
4	f	9	0	0		1	10
	%	8.0	0.0	0.0		100.0	8.5
5 and more	f	19	0	1		0	20
	%	16.8	0.0	50.0		0.0	16.9
TOTALS	f	115	2	2		1	118
	%	98.4	1.7	1.7		0.8	100.0

Table 2F

SCHOOL BACKGROUND RELATIONSHIP TO BEING HIRED FOR THE PRESENT JOB

Total Number of Years Employed in Bookkeeping Field		Number of Years Attendance at Institute of Technology							
		0	1	2	4	6	7	8	TOTALS
No Response	f	55	4	0	3	0	1	0	63
	%	55.6	66.7	0.0	42.9	0.0	100.0	0.0	53.4
0	f	3	1	0	0	0	0	0	4
	%	3.0	16.7	0.0	0.0	0.0	0.0	0.0	3.4
1/2	f	2	0	1	0	0	0	0	3
	%	2.0	0.0	33.3	0.0	0.0	0.0	0.0	2.5
1	f	1	0	0	0	0	0	0	1
	%	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
1 1/2	f	2	0	0	1	1	0	0	4
	%	2.0	0.0	0.0	14.3	100.0	0.0	0.0	3.4
2	f	4	0	1	0	0	0	0	5
	%	4.0	0.0	33.3	0.0	0.0	0.0	0.0	4.2
2 1/2	f	4	0	0	1	0	0	0	5
	%	4.0	0.0	0.0	14.3	0.0	0.0	0.0	4.2
3	f	2	1	0	0	0	0	0	3
	%	2.0	16.7	0.0	0.0	0.0	0.0	0.0	2.5
4	f	8	0	1	1	0	0	0	10
	%	8.1	0.0	33.3	14.3	0.0	0.0	0.0	8.5
5 and more	f	18	0	0	1	0	0	1	20
	%	18.2	0.0	0.0	14.3	0.0	0.0	100.0	16.9
TOTALS	f	99	6	3	7	1	1	1	118
	%	83.9	5.1	2.5	5.9	0.8	0.8	0.8	100.0

Table 2G

SCHOOL BACKGROUND RELATIONSHIP TO BEING HIRED FOR THE PRESENT JOB

Total Number of Years Employed in Bookkeeping Field		Number of Years Attendance at Community College						
		0	1	2	3	4	6	TOTALS
No Response	f	56	1	2	0	4	0	63
	%	56.0	25.0	33.3	0.0	66.7	0.0	53.4
0	f	4	0	0	0	0	0	4
	%	4.0	0.0	0.0	0.0	0.0	0.0	3.4
1/2	f	3	0	0	0	0	0	3
	%	3.0	0.0	0.0	0.0	0.0	0.0	2.5
1	f	0	0	0	0	1	0	1
	%	0.0	0.0	0.0	0.0	16.7	0.0	0.8
1 1/2	f	4	0	0	0	0	0	4
	%	4.0	0.0	0.0	0.0	0.0	0.0	3.4
2	f	5	0	0	0	0	0	5
	%	5.0	0.0	0.0	0.0	0.0	0.0	4.2
2 1/2	f	4	1	0	0	0	0	5
	%	4.0	25.0	0.0	0.0	0.0	0.0	4.2
3	f	1	2	0	0	0	0	3
	%	1.0	50.0	0.0	0.0	0.0	0.0	2.5
4	f	7	0	2	1	0	0	10
	%	7.0	0.0	33.3	100.0	0.0	0.0	8.5
5 and more	f	16	0	2	0	1	1	20
	%	16.1	0.0	33.3	0.0	16.7	100.0	16.9
TOTALS	f	100	4	6	1	6	1	118
	%	84.7	3.4	5.1	0.8	5.1	0.8	100.0

Table 2H

SCHOOL BACKGROUND RELATIONSHIP TO BEING HIRED FOR THE PRESENT JOB

Total Number of Years Employed in Bookkeeping Field		Number of Years Attendance at a University						
		0	1	2	4	6	7	TOTALS
No Response	f	52	1	3	2	0	5	63
	%	53.1	33.3	60.0	66.7	0.0	62.5	53.4
0	f	4	0	0	0	0	0	4
	%	4.1	0.0	0.0	0.0	0.0	0.0	3.4
1/2	f	2	0	0	0	0	1	3
	%	2.0	0.0	0.0	0.0	0.0	12.5	2.5
1	f	1	0	0	0	0	0	1
	%	1.0	0.0	0.0	0.0	0.0	0.0	0.8
1 1/2	f	2	1	0	0	0	1	4
	%	2.0	33.3	0.0	0.0	0.0	12.5	3.4
2	f	5	0	0	0	0	0	5
	%	5.1	0.0	0.0	0.0	0.0	0.0	4.2
2 1/2	f	4	0	1	0	0	0	5
	%	4.1	0.0	20.0	0.0	0.0	0.0	4.2
3	f	3	0	0	0	0	0	3
	%	3.1	0.0	0.0	0.0	0.0	0.0	2.5
4	f	9	0	0	1	0	0	10
	%	9.2	0.0	0.0	33.3	0.0	0.0	8.5
5 and more	f	16	1	1	0	1	1	20
	%	16.3	33.3	20.0	0.0	100.0	12.5	16.9
TOTALS	f	98	3	5	3	1	8	118
	%	83.1	2.5	4.2	2.5	0.8	6.8	100.0

APPENDIX II

SUMMARY OF SURVEY RESPONSES

Population Sample Data	f	%
1. Type of Business		
Agriculture	2	1.7
Forestry		
Fishing and Trapping		
Mines, Quarries, Oil Wells	3	2.5
Manufacturing	2	1.7
Construction	17	14.4
Transportation, Communication and Other Utilities	32	27.1
Trade (Wholesale and/or Retail)	29	24.6
Finance, Insurance and Real Estate	17	14.4
Industry (unspecified)	16	13.6
2. Size of firm according to total number of employees		
No Response	1	.8
1-5	11	9.3
6-15	19	16.1
16-25	9	7.6
26-50	5	4.2
51-100	2	1.7
101 or more	71	60.2
3. Age of Respondents		
No Response	1	.8
16-24	56	47.5
25 or more	61	51.7
4. Sex of Respondent		
No Response	1	.8
Male	15	12.7
Female	102	86.4
5. Did the Respondent Graduate from High School?		
Yes	105	89.0
No	13	11.0

	f	%
6. In what year did respondents graduate?		
No Response	19	16.1
1942	1	.8
1943	1	.8
1944	1	.8
1945	1	.8
1946	1	.8
1947		
1950	1	.8
1951	1	.8
1952	1	.8
1953	1	.8
1954	2	1.7
1955		
1956	1	.8
1957	1	.8
1958	1	.8
1959	1	.8
1960	2	1.7
1961	1	.8
1962	2	1.7
1963	3	2.5
1964	1	.8
1965	2	1.7
1966	1	.8
1967	3	2.5
1968	5	4.2
1969	3	2.5
1970	5	4.2
1971		
1972	5	4.2
1973	9	7.6
1974	6	5.1
1975	10	8.5
1976	9	7.6
1977	5	4.2
1978	6	5.1
1979	5	4.2
1980		
7. a. Number of years Recordkeeping was studied in High School		
No Response	18	15.3
0	76	64.4
1	7	5.9
2	8	6.8
3	7	5.9
4	2	1.7

		f	%
7. b.	Number of years of Bookkeeping and/or Accounting was studied in High School		
	No Response	4	3.4
	0	65	55.1
	1	12	10.2
	2	18	15.3
	3	17	14.4
	4	2	1.7
8.	Number of post-high school bookkeeping and/or accounting courses were taken by the respondants		
	No Response	2	1.7
	0	59	50.0
	1	28	23.7
	2	13	11.0
	3	4	3.4
	4	3	2.5
	5 or more	9	7.6
9.	How many years of post-high school training were attended by respondents		
	a. Private Business School		
	0	107	90.7
	1/2	3	2.5
	1	7	5.9
	1 1/2		
	2	1	.8
	2 1/2		
	3		
	4		
	5 and more		
	b. Vocational College		
	0	113	95.8
	1/2	2	1.7
	1	2	1.7
	1 1/2		
	2	1	.8
	2 1/2		
	3		
	4		
	5 and more		

	f	%
c. Institute of Technology		
0	99	83.9
1/2	6	5.1
1	3	2.5
1 1/2	7	5.9
2		
2 1/2	1	.8
3	1	.8
4	1	.8
5 and more		
d. Community College		
0	100	84.7
1/2	4	3.4
1	6	5.1
1 1/2	1	.8
2	6	5.1
2 1/2		
3	1	.8
4		
5 and more		
e. University		
0	98	83.1
1/2	3	2.5
1	5	4.2
1 1/2		
2	3	2.5
2 1/2		
3	1	.8
4	8	6.8
5 and more		
f. Other (RIA, CA or CGA courses, Teacher's College, and courses offered by private firms such as H & R Block Income Tax and MSA Computer payroll)		
0	104	88.1
1/2	10	8.5
1	1	.8
1 1/2	3	2.5
2		
2 1/2		
3		
4		
5 and more		

		f	%
10.	Did the Respondent earn a certificate, diploma or degree from the		
	a. Private Business School		
	yes	8	6.8
	no	110	93.2
	b. Vocational College		
	yes	3	2.5
	no	115	97.5
	c. Institute of Technology		
	yes	13	11.0
	no	105	89.0
	d. Community College		
	yes	10	8.5
	no	108	91.5
	e. University		
	yes	8	6.8
	no	110	93.2
	f. Other		
	yes	7	5.9
	no	109	92.4
	other	2	1.7

Present Employment	f	%
11. Present job title of respondent		
a. Clerk (payroll clerk, cashier, clerk typist of various levels, accounting clerk of various levels, sales tax, A/P and A/R, costing, control analysis, stock control, vault, office)	68	57.6
b. Secretary	9	7.6
c. Director	1	.8
d. Partner/Owner	4	3.4
e. Supervisor/Manager (credit analyst, office administration, general manager)	11	9.3
f. Accountant/Bookkeeper (project accountant, assistant accountant, intermediate accountant)	23	19.5
g. Vice-President (finance & administration)	2	1.7
12. Number of years employed by present employer		
0	109	92.4
1/2	7	5.9
1		
1 1/2	1	.8
2		
2 1/2		
3		
4		
5 and more	1	.8
13. Was respondent employed:		
a. full time	109	92.4
b. part time	7	5.9
c. other	2	1.7
14. Number of years the respondent has performed present duties for present employer		
No response	3	2.5
0	7	5.9
1/2	42	35.6
1	21	17.8
1 1/2	9	7.6
2	8	6.8
2 1/2	2	1.7
3	8	6.8
4	6	5.1
5 and more	12	10.2

Present Employment	f	%
11. Present job title of respondent		
a. accounting clerk	68	57.6
b. accounts receivable clerk	9	7.6
c. payroll clerk	1	.8
d. posting clerk	4	3.4
e. assistant bookkeeper	11	9.3
f. bookkeeper	23	19.5
g. other	2	1.7
12. Number of years employed by present employer		
0	109	92.4
1/2	7	5.9
1		
1 1/2	1	.8
2		
2 1/2		
3		
4		
5 and more	1	.8
13. Was respondant employed		
a. full time	109	92.4
b. part time	7	5.9
c. other	2	1.7
14. Number of years the respondent has performed present duties for present employer		
No response	3	2.5
0	7	5.9
1/2	42	35.6
1	21	17.8
1 1/2	9	7.6
2	8	6.8
2 1/2	2	1.7
3	8	6.8
4	6	5.1
5 and more	12	10.2

	f	%
15. In the respondents opinion, recordkeeping, bookkeeping or accounting skills were learned through previous high school training		
No response	1	.8
Entirely	3	2.5
Mostly	28	23.7
Partly	6	5.1
Not at all	80	67.8
16. In the respondents opinion, recordkeeping, bookkeeping and accounting duties were learned through previous formal post high school training		
No response	5	4.2
Entirely	2	1.7
Mostly	12	10.2
Partly	26	22.0
Not at all	73	61.9
17. The following responses most closely represent the training background required the respondent to have for present recordkeeping, bookkeeping and accounting duties		
No response	5	4.2
Mostly high school training	10	8.5
Mostly post high school training	11	9.3
Mostly job experience	53	44.9
All school training and job experience equally	19	16.1
I don't know	20	16.9
18. The respondent spends the following number of hours working directly on recordkeeping, bookkeeping and accounting duties		
No response	5	4.2
1	12	10.2
2	16	13.6
3	14	11.9
4	10	8.5
5	9	7.6
6	6	5.1
7	32	27.1
8	14	11.9

		f	%
19.	The respondent felt promotional opportunities in bookkeeping, recordkeeping and accounting were as follows		
	No response	8	6.8
	Good	37	31.4
	Fair	40	33.9
	Poor	21	17.8
	Don't know	12	10.2
20.	Titles of immediate superiors		
	a. No response	5	4.2
	b. Manager (corporate accounting, office, branch, plant, general, sales, accounting assistant, section)	40	33.9
	c. Supervisor (credit department, payroll, A/R and A/P)	27	22.9
	d. Accountant/Comptroller (Controller)/ Bookkeeper and Assistant	12	10.2
	e. Director (of development, design)	3	2.5
	f. Clerk (A/R & A/P, various levels)	7	5.9
	g. Plumber	1	.8
	h. Nil or not applicable	6	5.1
21.	Titles of next highest position		
	a. No response	17	14.4
	b. Manager (office, accounting assistant, project, accounting)	12	10.2
	c. Supervisor (payroll, A/R and A/P)	11	9.3
	d. Accountant/Comptroller (Controller)/ Bookkeeper (Financial statement accountant, monetary book comptroller, assistant accountant)	12	10.2
	e. Clerk (A/R and A/P, accounting, various levels, payroll, senior, stock control, inventory investigations)	37	31.4
	f. Secretary/Executive assistant	2	1.7
	g. Sales representative	1	.8
	h. None/not applicable/nil	26	22.0

	f	%
22. The respondent has been promoted (changed job title) since beginning to work for the present employer		
No response	4	3.4
Yes	53	44.9
No	61	51.7
23. Title at previous job		
a. No response	54	45.8
b. Manager (office, credit)	2	1.7
c. Supervisor (office, payroll)	2	1.7
d. Accountant/Comptroller (Controller)/ Bookkeeper (corporate controller, inventory controller)	3	2.5
e. Clerk (A/R and A/P, various levels, wholesale, clerk/typist, accounting, sales, mail, supply, bank audit, customer service, posting, billing, invoicing, chief, stock control)	41	34.7
f. Secretary/Receptionist (sales staff, stenographer, medical)	5	4.2
g. Keypunch operator	2	1.7
h. Not applicable	9	7.6
24. What most closely represents the criteria for promotion in the respondent's firm		
No response	8	6.8
Mostly high school training	4	3.4
Mostly post high school training	8	6.8
Mostly job experience and performance	65	55.1
All school training and job experience about equally	27	22.9
I don't know	6	5.1

Previous Employment	f	%
25. On the respondent's first job		
a. the job title was		
No Response	57	48.3
Manager (office, accounting assistant)	4	3.4
Executive (junior accounting)	1	.8
Accountant/Comptroller (Controller)/ Bookkeeper (recordkeeper, assistant)	9	7.6
Clerk (payable, file, typist, junior, accounting, contractor, microfilm, machine operator, payroll, purchasing, mail, bank, collections, stores, teller)	32	27.1
Secretary/Receptionist (stenographer)	12	10.2
Computer operator	1	.8
Other (paper person, copy writer)	2	1.7
b. held the job for these many years		
No response	57	48.3
0	2	1.7
1/2	17	14.4
1	9	7.6
1 1/2	10	8.5
2	12	10.2
2 1/2	3	2.5
3	2	1.7
4	2	1.7
5 and more	4	3.4
c. the employer required previous formal high school training		
No response	59	50.0
Yes	28	23.7
No	31	26.3
d. the respondents felt that duties were learned through previous formal high school training		
No response	59	50.0
Entirely	3	2.5
Mostly	4	3.4
Partly	18	15.3
Not at all	34	28.8

	f	%
e. the respondents felt that duties were learned through previous formal post high school training		
No response	60	50.8
Entirely	2	1.7
Mostly	11	9.3
Partly	12	10.2
Not at all	33	28.0
26. Only in the bookkeeping field (excluding other jobs), the respondant		
a. worked for this number of different employers (including the present job)		
0	65	55.1
1	6	5.1
2	13	11.0
3	20	16.9
4	10	8.5
5	2	1.7
6		
7	1	.8
8	1	.8
b. worked this total number of years in bookkeeping field		
No response	63	53.4
0	4	3.4
1/2	3	2.5
1	1	.8
1 1/2	4	3.4
2	5	4.2
2 1/2	5	4.2
3	3	2.5
4	10	8.5
5 and more	20	16.9
c. in the respondent's opinion, learned to perform bookkeeping activities through previous high school training		
No response	63	53.4
Entirely	3	2.5
Mostly	7	5.9
Partly	13	11.0
Not at all	32	27.1

	f	%
d. the respondent felt bookkeeping duties were learned through formal post high school training		
No response	63	53.4
Entirely	3	2.5
Mostly	7	5.9
Partly	13	11.0
Not at all	32	27.1

Present Job Duties	f	%
Use of Office Machines		
27. The number of hours spent at a typewriter in a typical work week		
No response	7	5.9
0	49	41.5
1/2	9	7.6
1	10	8.5
2	9	7.6
4	10	8.5
8	12	10.2
16	1	.8
17 and more	11	9.3
28. Number of hours spent on these typing activities		
a. letters, memos, reports, and others		
None	64	54.2
One hour	12	10.2
Two hours	6	5.1
Three hours and more	36	30.5
b. Tables or standard forms (invoices, cheques)		
None	72	61.0
One hour	14	11.9
Two hours	4	3.4
Three hours and more	28	23.7
c. Other activities	0	0.0

	Equipment		Hours Used	
29. Office machines used	f	%	f	%
No response	56	47.5	60	50.8
Computer terminal (terminette, computer)	10	8.5	16	13.6
Posting machine/Postage meter	2	1.7	13	11.0
Chequewriter	4	3.4	2	1.7
Telex	4	3.4	4	3.4
Word Processor/VuCom	6	5.1	5	4.2
Duplicating equipment (mimeo/spirit, photocopier)	29	24.6	1	.8
Microfiche reader	3	2.5	2	1.8
Keypunch/Verifier				
Other (switchboard, telephone, cash register, shredder, n/a)	4	3.4	15	12.2

	f/118	%/100
30. Use of computers to generate bookkeeping and accounting records		
General ledger/posting	65	55.1
Financial statements and reports	37	31.4
Financial documents (claims, job costing, work orders)	36	30.5
Banking services	52	44.1
Other	32	27.1

Job Overview	f	%
31. The Range of Hours that most closely represents the amount of time in a typical week spent in making calculations, both manually and by machine		
No response	8	6.8
0	29	24.8
1-9	25	21.2
10-19	32	27.1
20-29	23	19.5
30 or more	1	.8
32. Who provided a hand calculator for work		
Do not use a hand calculator	77	65.3
My employer	34	28.8
It is my own	7	5.9
33. Is the hand calculator programmable?		
No response	68	57.6
Yes	6	5.1
No	44	37.3
34. Kinds of desk calculators		
Do not use desk calculator	14	11.9
Ten key calculator	43	36.4
Full key-board calculator	52	44.1
Rotary calculator	1	.8
Comptometer		
Other	5	4.2
35. Range of hours hand-copying		
0	23	19.5
1-9	59	50.0
10-19	18	15.3
20-29	14	11.9
30 or more	4	3.4
36. Final responsibility		
No response	3	2.5
Final	65	55.1
Checked	42	35.6
Not applicable	8	6.8

	f	%
37. Journals (according to number of money columns)		
a. General		
Not applicable	104	88.1
1	14	11.9
b. Sales		
Not applicable	86	72.9
1	13	11.0
2	5	4.2
3	4	3.4
4		
5	1	.8
6	1	.8
7	1	.8
8	5	4.2
9	2	1.7
10	2	1.7
11 and more		
c. Purchases		
Not applicable	105	89.0
1	13	11.0
d. Combination cash receipts and cash payments (or synoptic journal)		
Not applicable	104	88.1
1	11	9.3
2	1	.8
8	2	1.7
e. Cash receipts		
Not applicable	108	91.5
1	9	7.6
4	1	.8
f. Cash payments		
Not applicable	100	84.7
1	11	9.3
2	1	.8
3	2	1.7
7	1	.8
8	2	1.7
9	1	.8
10		
11 and more		

		f/118	%/100
38.	The respondant posts manually or by computer to the general ledger	99	83.9
39.	The respondant posts to one or more subsidiary ledgers	94	79.7
40	Subsidiary ledgers used		
	a. Accounts receivable	108	91.5
	b. Accounts payable, including payrolls	97	82.2
	c. Other (work in progress, budgets and commitments, rent records, transfers between stores)	104	88.1

APPENDIX III

Table 3

Summary of
DETAILS OF PRESENT JOB ACTIVITIES (cont'd)
Job Activities Performed on the Present Job According to Type of Business

(Where X is no, Y is yes)	No Response	Agriculture		Forestry		Fishing & Trapping		Mines, Quarries, Oil Wells		Manufacturing		Construction		Transportation		Trade		Finance		Industry	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
(A) Sales or Services Rendered																					
1. Do you decide or help to decide to whom credit should be extended?	5	2	0					2	1	2	0	14	2	30	0	15	12	16	1	11	5
2. Do you keep records of merchandise stock numbers sold or types of services rendered?	5	2	0					3	0	2	0	13	3	23	7	14	14	15	2	12	3
3. Do you list (by salesman, week, territory, or type of service) customers, subscribers, clients or patients?	7	0	2					3	0	2	0	11	5	23	7	15	13	14	2	12	2
4. Do you prepare sales invoices or bills for services rendered?	4	2	0					2	1	0	2	10	6	28	1	16	12	13	4	8	8
5. Do you prepare credit memos?	4	2	0					2	1	1	1	11	5	28	2	14	15	15	2	12	3
6. Do you keep records of sales taxes charged?	9	2	0					3	0	1	1	15	1	25	5	19	7	15	1	13	1
7. Do you calculate amounts (such as extensions, discounts, allowances, deductions, taxes or freight charges) for recording on sales invoices or bills?	5	2	0					2	1	1	1	11	5	23	7	12	17	16	1	12	2
8. Do you list and/or total sales invoices, bills or credit memos?	5	1	1					3	0	0	2	10	6	23	7	8	21	12	5	8	6
9. Do you make entries in a sales journal or a journal for services rendered?	4	1	1					3	0	1	1	11	5	28	1	17	11	14	3	10	6
10. Do you record C.O.D. sales in a journal?	7	1	1					3	0	1	1	16	0	27	3	15	12	17	0	14	0
11. Do you make entries in a sales returns and allowances journal?	6	2	0					3	0	2	0	16	0	29	1	22	6	16	1	14	0
12. Do you calculate salesmen's commissions or expenses?	7	0	2					2	1	1	1	15	1	28	2	14	13	14	3	12	2
(B) Cash Receipts																					
13. Do you calculate discounts, allowances, or partial payments before incoming cheques are recorded?	6	2	0					3	0	2	0	12	4	27	3	19	9	15	2	12	2
14. Do you calculate payments received as grants or budgetary allocations?	8	2	0					3	0	1	0	14	2	28	2	24	4	16	0	10	4
15. Do you enter incoming cheques in a cash receipts journal?	5	1	1					3	0	1	1	9	7	27	3	17	11	10	6	6	10
16. Do you record bank deposits in a cash receipts journal?	5	0	2					3	0	1	1	9	7	28	2	15	13	11	5	4	12
17. Do you start each month's cash receipts journal with a cash balance from the previous month?	6	2	0					3	0	1	1	14	2	28	2	22	6	14	2	9	6
18. Do you total cash receipts records, registers or journals?	5	1	1					3	0	1	1	11	5	26	4	16	12	11	5	5	11

Summary of
DETAILS OF PRESENT JOB ACTIVITIES (cont'd)
Job Activities Performed on the Present Job According to Business

(Where X is no, Y is yes)	No Response	Agriculture		Forestry		Fishing & Trade		Mines, Quarries, Oil Wells		Manufacturing		Construction		Transportation		Trade		Finance		Industry	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
19. Do you make journal entries for cash received on instalment sales?	8	1	1					3	0	2	0	13	3	29	1	18	8	14	2	11	3
20. Do you use a cash register?	7	2	0					3	0	2	0	16	0	29	1	24	3	15	1	13	2
21. Do you count cash received or prove correctness of cash on hand with totals in a cash register?	7	2	0					3	0	2	0	15	1	29	1	19	8	14	2	13	2
22. Do you keep records of sales taxes collected?	8	2	0					3	0	1	1	16	0	30	0	22	5	16	0	14	0
23. Do you collect cash from two or more registers and record the totals?	7	2	0					3	0	2	0	15	1	29	1	22	5	16	0	12	3
24. Do you keep records of expenses, purchases or drawings paid for by cash taken from daily receipts?	6	1	1					2	1	2	0	16	0	29	1	15	13	13	3	11	4
25. Do you make entries for discounting notes payable?	9	2	0					3	0	2	0	16	0	30	0	24	3	14	1	13	1
(C) Accounts Receivable																					
26. Do you record and/or post invoices, bills or credit memos to accounts of customers, subscribers, patients, clients, grantors, etc.?	7	1	1					3	0	0	2	10	6	24	6	11	15	9	6	9	7
27. Do you post payments received to clients accounts?	5	1	1					3	0	0	2	10	6	27	3	12	16	9	7	10	6
28. Do you key off or letter off entries in accounts?	7	1	1					3	0	2	0	14	2	29	1	19	8	12	4	11	4
29. Do you find balances in accounts?	5	0	2					3	0	1	1	9	7	23	7	13	15	9	7	7	9
30. Do you prepare statements of accounts?	5	1	1					3	0	0	2	10	6	25	5	18	10	12	4	9	7
31. Do you list or prepare schedules of end-of-month balances of accounts?	6	1	1					3	0	0	2	7	9	27	3	18	9	11	5	9	7
32. Do you age accounts receivable (to identify how long they are overdue)?	6	1	1					3	0	1	1	10	6	26	4	18	9	12	4	9	7
33. Do you keep records of accounts written off as bad debts?	5	1	1					3	0	1	1	10	6	27	1	15	13	13	3	8	8
(D) Purchases or Services Rendered																					
34. Do you prepare purchase orders or requisitions?	7	2	0					2	1	1	1	8	9	29	1	16	10	13	3	10	5
35. Do you compare merchandise or services received with purchase invoices or bills received?	7	1	1					2	1	1	1	10	7	27	3	15	11	12	4	9	6
36. Do you code purchase invoices or bills received to indicate the nature of the purchase or services?	6	2	0					2	1	1	1	9	8	24	6	14	13	12	4	11	4
37. Do you record purchase quantities on inventory, stock, or open-to-buy records?	7	2	0					3	0	2	0	17	0	24	6	21	6	13	3	14	0

Summary of
DETAILS OF PRESENT JOB ACTIVITIES (cont'd)
Job Activities Performed on the Present Job According to Business

(Where X is no, Y is yes)	No Response	Agriculture		Forestry		Fishing & Trade		Mines, Quarries, Oil Wells		Manufacturing		Construction		Transportation		Trade		Finance		Industry	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
38. Do you compare the total of purchase invoices or expense vouchers with amounts budgeted for them?	9	2	0					2	1	1	0	11	6	27	3	23	3	12	4	11	3
39. Do you prepare credit slips for returned purchases or for errors on purchase invoices?	6	2	0					3	0	1	1	14	3	29	1	21	6	14	2	11	4
40. Do you calculate due dates on purchase invoices, vouchers or bills received?	7	1	1					2	1	1	1	11	6	28	2	16	10	15	1	12	3
41. Do you prepare vouchers for incoming purchases or contracted services?	7	2	0					2	1	1	1	16	1	29	1	24	3	14	2	13	1
42. Do you enter purchases or bills for services in a purchases journal or journal for services received?	8	2	0					3	0	1	1	14	3	26	4	19	7	14	2	13	1
43. Do you make entries in a journal that has departmental column headings?	8	2	0					3	0	1	1	15	2	27	3	21	5	13	3	11	3
44. Do you enter vouchers in a voucher register?	7	2	0					3	0	1	1	15	2	25	5	26	1	15	1	13	1
45. Do you make entries in a purchase returns journal?	8	2	0					3	0	2	0	17	0	30	0	25	0	16	0	14	0
E Cash Disbursements																					
46. Do you prepare stubs and cheques for cash disbursements?	7	0	2					2	1	0	2	5	12	29	1	11	16	11	4	6	9
47. Do you code cheques or stubs by function?	7	2	0					2	1	1	1	9	8	28	2	17	9	13	3	9	6
48. Do you enter issued cheques in a cash payments journal?	7	0	2					2	1	2	0	12	5	30	0	17	10	13	3	6	8
49. Do you make entries in a cheque register that is part of a voucher system?	9	1	0					3	0	2	0	13	4	30	0	23	2	14	2	12	3
50. Do you verify correctness of cash journals by comparing balances in journals with balances in a cheque book?	8	1	1					2	1	1	1	12	5	30	0	19	6	13	3	10	5
51. Do you make entries relating to operating expenses, such as rent, telephone, electricity, etc.?	6	0	2					2	1	0	2	11	6	29	1	13	14	10	6	7	8
52. Do you make entries for proprietor's personal drawings?	8	1	1					2	1	1	1	12	5	30	0	18	8	15	1	10	4
53. Do you reconcile the bank statement balance with the cheque book or cash journal balance?	6	0	2					2	1	0	2	7	10	20	1	13	14	10	6	6	9

Summary of
DETAILS OF PRESENT JOB ACTIVITIES (cont'd)
Job Activities Performed on the Present Job According to Business

(Where X is no, Y is yes)	No Response	Agriculture		Forestry		Fishing & Trade		Mines, Quarries, Oil Wells		Manufacturing		Construction		Transportation		Trade		Finance		Industry	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
54. Do you make entries for bank charges and collection charges?	7	1	1					3	0	0	2	6	11	30	0	12	14	10	6	7	8
55. Do you use a pegboard or other "one-write" system for cash receipts or cash payments?	7	1	1					3	0	2	0	16	1	30	0	19	7	15	1	12	3
56. Do you make entries in journals for collection or payment of notes receivable or notes payable?	8	0	2					3	0	1	1	12	5	29	1	22	3	13	3	10	4
(F) Accounts Payable																					
57. Do you post purchase or return amounts in creditors' or vendors' accounts?	6	1	1					3	0	1	1	12	5	29	1	16	10	13	3	14	2
58. Do you post to creditors' accounts the amounts of cash paid to them?	7	1	1					3	0	1	1	11	6	29	1	16	10	14	2	12	3
59. Do you compare statements received from creditors with balances in their accounts?	6	1	1					3	0	1	1	6	11	28	2	10	16	12	4	11	5
60. Do you list or prepare schedules for end-of-month balances in creditors' accounts?	6	1	1					3	0	2	0	10	7	30	0	18	8	14	2	15	1
(G) Merchandise Records																					
61. Do you keep cost records (such as standard costs, production costs, etc.) for manufacturing departments?	7	2	0					2	1	1	1	13	4	26	4	20	6	14	2	14	1
62. Do you prepare charge slips to subcontractors for merchandise sent to them?	8	2	0					3	0	2	0	14	3	29	0	26	0	16	0	15	0
63. Do you keep records of merchandise and money received from or due to subcontractors?	8	2	0					2	1	2	0	9	8	27	2	22	4	15	1	14	1
64. Do you prepare charge slips or credit slips for merchandise shipped to or from branches or subsidiaries?	8	2	0					3	0	2	0	16	1	29	0	24	2	15	1	15	0
65. Do you make journal entries for merchandise shipped or received on consignment?	8	2	0					3	0	2	0	16	1	29	0	22	4	16	0	15	0
66. Do you price and/or total merchandise for physical inventory?	7	2	0					3	0	1	1	17	0	20	10	21	5	12	4	15	0
67. Do you compare physical inventory count with inventory or stock records?	6	2	0					3	0	2	0	17	0	19	11	22	4	13	3	15	0
(H) Petty Cash																					
68. Do you prepare petty cash slips or vouchers?	7	1	1					2	1	1	1	11	6	25	1	10	16	10	7	10	6

Summary of
DETAILS OF PRESENT JOB ACTIVITIES (cont'd)
Job Activities Performed on the Present Job According to Business

(Where X is no, Y is yes)	No Response	Agriculture		Forestry		Fishing & Trade		Mines, Quarries, Oil Wells		Manufacturing		Construction		Transportation		Trade		Finance		Industry	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	Y	Y
69. Do you prepare petty cash slips or vouchers?	5	1	1					2	1	2	0	13	4	30	0	19	8	12	4	10	6
70. Do you post directly from the petty cash journal to the general ledger?	5	1	1					3	0	1	0	16	1	29	0	24	3	13	4	12	4
71. Are you responsible for maintaining the petty cash box or drawer?	4	2	0					1	2	1	1	13	4	29	0	10	17	11	6	9	7
(I) Payroll																					
72. Do you prepare time cards for employees?	5	1	1					3	0	1	1	13	4	31	0	19	8	13	3	11	4
73. Do you calculate time worked by employees?	5	2	0					1	2	1	1	11	6	28	2	14	13	13	3	8	8
74. Do you calculate gross earnings of employees?	4	1	1					1	2	1	1	10	7	29	2	10	17	13	3	4	12
75. Do you calculate piecework earnings by employees?	6	2	0					1	2	2	0	15	2	30	1	21	6	16	0	11	3
76. Do you calculate payroll deductions for taxes, U.I.C., C.P.P., hospitalization, etc.?	4	1	1					1	2	1	1	10	7	30	1	11	16	14	2	6	10
77. Do you enter payroll information in a payroll book or register?	4	1	1					3	0	1	1	11	6	30	1	15	12	13	3	6	10
78. Do you record payroll entries in a cash payments journal?	6	1	1					2	1	1	1	13	4	31	0	19	7	16	0	10	5
79. Do you post directly from the payroll journal to the general ledger?	4	1	1					3	0	2	0	14	3	31	0	20	7	15	1	8	8
80. Do you enter payroll information on the earnings records of individual employees?	4	1	1					2	1	1	1	11	6	30	1	14	13	13	3	8	8
81. Do you prepare forms for depositing employees' and employer's payroll taxes at the bank?	4	2	0					3	0	1	1	12	5	31	0	19	8	16	0	11	5
82. Do you make journal entries for depositing employees' and employer's payroll taxes at the bank?	6	2	0					2	1	0	1	12	5	30	1	22	5	16	0	8	7
83. Do you total the earnings records of individual employees at the end of each month?	4	2	0					2	1	1	1	13	4	30	1	19	8	15	1	10	6
84. Do you prepare quarterly payroll tax reports for federal, provincial, or municipal governments?	6	2	0					3	0	1	0	15	2	31	0	25	2	16	0	15	0
85. Do you total the earnings records of employees for the year?	4	2	0					2	1	1	1	11	6	30	1	15	12	15	1	8	8

Summary of
DETAILS OF PRESENT JOB ACTIVITIES (cont'd)
Job Activities Performed on the Present Job According to Business

(Where X is no, Y is yes)	No Response	Agriculture		Forestry		Fishing & Trade		Mines, Quarries, Oil Wells		Manufacturing		Construction		Transportation		Trade		Finance		Industry	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
86. Do you prepare information for employees' T-4, T-4A, T-5, etc. forms?	4	1	1					2	1	1	1	11	6	30	1	14	13	14	2	6	10
(J) Financial Statements																					
87. Do you prepare sales or commercial rent tax returns?	6	2	0					3	0	2	0	17	0	28	2	25	2	16	0	15	0
88. Do you prepare trial balances?	5	1	1					3	0	2	0	13	4	25	5	19	8	13	3	9	7
89. Do you prepare work sheets for balance sheets or income statements?	6	1	1					2	1	2	0	12	5	27	3	22	5	15	1	11	4
90. Do you prepare a post-closing trial balance?	5	1	1					3	0	2	0	15	2	30	0	23	4	15	1	14	2
91. Do you prepare balance sheets or income statements?	6	1	1					3	0	2	0	12	5	30	0	20	7	13	3	9	6
92. Do you prepare comparative balance sheets or comparative income statements?	6	1	1					3	0	2	0	14	3	30	0	26	1	14	2	12	3
93. Do you prepare income tax or franchise tax returns for your employer?	6	1	1					2	1	2	0	16	1	30	0	26	1	16	0	14	1
94. Do you use financial statements as a basis for preparing current ratios, working capital or merchandising turnover?	6	1	1					3	0	1	1	15	2	30	0	23	4	15	1	13	2
95. Do you calculate the distribution of net profits for a partnership?	6	2	0					3	0	2	0	15	2	30	0	26	1	15	1	15	0
(K) General Ledger and General Journal																					
96. Do you keep records or accounts for mortgage interest and principal?	7	2	0					3	0	1	1	11	6	30	0	23	3	14	2	11	4
97. Do you record entries in the general ledger?	6	1	1					1	2	1	1	11	6	25	5	17	9	10	6	7	9
98. Do you record entries in the general journal for appropriations granted to your department or fund?	7	1	1					2	1	2	0	16	1	30	0	25	1	14	2	12	2
99. Do you make entries in the general journal for anticipated revenues for your department or fund?	6	1	1					2	1	2	0	17	0	30	0	26	0	14	2	14	2
100. Do you post from the general journal to the general ledger?	7	2	0					3	0	2	0	13	4	30	0	24	2	11	5	9	6
101. Do you record notes receivable or notes payable in the general journal or other journals?	6	1	1					3	0	2	0	13	4	28	2	23	3	12	4	12	4

Summary of
DETAILS OF PRESENT JOB ACTIVITIES (cont'd)
Job Activities Performed on the Present Job According to Business

(Where X is no, Y is yes)	No Response	Agriculture		Forestry		Fishing & Trade		Mines, Quarries, Oil Wells		Manufacturing		Construction		Transportation		Trade		Finance		Industry	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
102. Do you record entries relating to interest income or interest expense?	6	2	0					3	0	2	0	13	4	30	0	19	7	11	5	9	7
103. Do you reconcile accounts receivable or accounts payable with general ledger accounts?	6	1	1					2	1	0	2	9	8	25	5	17	9	10	6	9	7
104. Do you record payroll entries in the general journal?	6	1	1					1	2	2	0	12	5	30	1	17	8	11	5	7	9
105. Do you reconcile payroll records with general ledger accounts?	10	1	1					2	1	2	0	9	7	24	1	16	8	13	2	10	6
106. Do you prepare adjusting entries for bad debts or depreciation?	5	2	0					3	0	2	0	14	3	28	3	20	6	16	0	11	5
107. Do you make adjusting entries for accrued expenses (unpaid salaries, etc.)?	5	2	0					2	1	2	0	11	6	29	2	20	5	13	3	13	3
108. Do you prepare adjusting entries for deferred expenses (unexpired insurance, supplies on hand, etc.)?	6	2	0					3	0	2	0	14	3	29	2	21	5	16	0	14	1
109. Do you make adjusting entries for accrued or deferred income?	6	2	0					2	1	2	0	15	2	31	0	25	1	15	1	13	2
110. Do you make formal correction entries (such as reversal entries, etc.) in the journals and ledgers when mistakes are made?	6	1	1					1	2	1	1	6	11	17	14	15	11	7	9	7	8
111. Do you make entries for recovery of bad debts previously written off?	6	1	1					3	0	2	0	14	3	29	2	21	5	15	1	11	4
112. Do you keep drawing and capital accounts for an individual proprietorship or partnership?	7	1	0					3	0	2	0	14	3	31	0	24	2	16	0	14	1
113. Do you make entries for earnings and dividends in capital stock, retained earnings, and other capital accounts?	6	1	1					3	0	2	0	15	2	31	0	25	1	16	0	13	2
114. Do you make entries to close income and expense accounts at the end of the fiscal year?	5	2	0					2	1	2	0	13	4	31	0	23	3	11	5	10	6
115. Do you make, if necessary, reversal entries in the general journal?	5	2	0					1	2	2	0	9	8	25	6	19	6	10	6	9	7
(L) Data Processing																					
116. Do you make calculations in connection with entering financial data on coding or input sheets for data processing?	6	2	0					2	1	2	0	11	6	19	12	20	6	13	3	11	4
117. Do you enter financial data on coding/input forms for data processing?	6	1	1					1	2	2	0	10	7	20	11	20	6	14	2	11	4

Summary of
DETAILS OF PRESENT JOB ACTIVITIES (cont'd)
Job Activities Performed on the Present Job According to Type of Business

(Where X is no, Y is yes)	No Response	Agriculture		Forestry		Fishing & Trade		Mines, Quarries, Oil Wells		Manufacturing		Construction		Transportation		Trade		Finance		Industry	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
118. Do you compare data processing coding/input forms with original bookkeeping and business papers?	6	2	0					2	1	2	0	13	4	20	11	20	6	15	1	11	4
119. Do you enter coding information on business papers in preparation for data processing?	6	2	0					1	2	2	0	9	8	19	12	21	5	11	5	11	4
120. Do you compare or balance data processing printouts with original business papers?	5	2	0					2	1	2	0	11	6	19	12	21	6	12	4	11	4
121. Do you enter corrections on coding/input forms for data processing?	6	2	0					1	2	2	0	7	10	19	12	20	6	14	2	12	3
122. Do you enter inventory information on coding forms?	7	2	0					3	0	2	0	17	0	22	8	24	2	16	0	15	0
123. Do you examine data processing records to verify complaints?	6	2	0					2	1	2	0	12	5	21	10	20	6	12	4	14	1
124. Do you examine data processing records to find requested information?	6	2	0					2	1	2	0	11	6	18	13	21	5	10	6	12	3
125. Do you prepare flow charts for data processing systems?	6	2	0					2	1	2	0	17	0	29	2	26	0	16	0	15	0
M Miscellaneous																					
126. Do you keep a register of your organization's insurance policies?	4	1	1					3	0	1	1	13	4	31	0	18	9	15	1	9	7
127. Do you file claims for losses covered by insurance?	3	1	1					3	0	2	0	14	3	31	0	23	5	15	1	9	7
128. Do you calculate amounts of interest income or interest expense?	4	2	0					3	0	1	1	11	6	31	0	22	5	13	3	14	2
129. Do you record entries in notes receivable or note payable registers?	4	1	1					3	0	2	0	15	2	30	1	22	5	15	1	14	2
130. Do you keep a subsidiary ledger or other record for plant, equipment or other fixed assets?	5	2	0					3	0	0	2	14	3	29	2	24	3	14	2	11	4
131. Do you keep subsidiary ledgers for individual grants or appropriations?	5	2	0					3	0	2	0	17	0	31	0	27	0	14	2	14	1
132. Do you make entries in journals that differ from their column headings (double posting, negative entries, etc.)?	7	2	0					3	0	2	0	16	1	30	1	24	3	13	2	9	5

APPENDIX III

Table 4

RELATIONSHIP OF TERM OF EMPLOYMENT WITH SIZE OF FIRM

Number of Years Employed with Present Employer		Total Number of Employees in Firm						
		1-5	6-15	16-25	26-50	51-100	101+	TOTALS
No Response	f	0	0	1	0	0	0	1
	%	0.0	0.0	11.1	0.0	0.0	0.0	0.8
0	f	1	2	3	0	0	0	6
	%	9.1	10.5	33.3	0.0	0.0	0.0	5.1
1/2	f	0	2	0	1	1	23	27
	%	0.0	10.5	0.0	20.0	50.0	32.4	22.9
1	f	1	1	1	1	0	10	14
	%	9.1	5.3	11.1	20.0	0.0	14.1	11.9
1 1/2	f	1	1	0	0	0	11	13
	%	9.1	5.3	0.0	0.0	0.0	15.5	11.0
2	f	2	1	1	0	0	8	12
	%	18.2	5.3	11.1	0.0	0.0	11.3	10.2
2 1/2	f	0	0	0	1	0	6	7
	%	0.0	0.0	0.0	20.0	0.0	8.5	5.9
3	f	4	2	0	0	1	4	11
	%	36.4	10.5	0.0	0.0	50.0	5.6	9.3
4	f	2	3	1	0	0	3	9
	%	109.1	15.8	11.1	0.0	0.0	4.2	7.6
5 and more	f	1	7	2	2	0	6	18
	%	9.1	36.8	22.2	40.0	0.0	8.5	15.3
TOTALS	f	12	19	9	5	2	71	118
	%	10.1	16.1	7.6	4.2	1.7	60.2	100.0

APPENDIX III

Table 5

RELATIONSHIP BETWEEN AGE OF RESPONDENT AND JOB TITLE

Job Title	Age of Respondant				TOTALS	
	16 - 24		25+			
	f	%	f	%	f	%
No Response	33	58.9	24	39.3	57	48.3
Clerk (payrool clerk, cashier, clerk typist of various levels, accounting clerk of various levels, sales tax, A/P and A/R, costing, control analysis, stock control, vault, office)	1	1.8	3	4.9	4	3.4
Secretary	1	1.8	0	0.0	1	0.8
Director	3	5.4	6	9.8	9	7.6
Partner/Owner	15	125.0	17	27.9	32	27.1
Supervisor/Manager (credit analyst, office administration, general manager)	2	3.6	10	16.4	12	10.2
Accountant/Bookkeeper (project accountant, assistant accountant, intermediate accountant)	1	1.8	0	0.0	1	1.8
Vice-President (finance and administration)	1	1.8	1	1.6	2	1.7
TOTALS	57	0.8	61	51.7	118	100.0

APPENDIX IV *

Table 6

Number of students learning job activities in high school in Recordkeeping 10.

	Schools	Male	Female	Total
1964-65	137	904	1399	2303
65-66	86	966	1115	2081
66-67	85	761	1006	1767
67-68	113	881	1100	1981
68-69	- No figures available -			
69-70	76	674	857	1531
70-71	88	1086	1249	2335
71-72	66	880	1122	2002
72-73	75	967	1464	2431
73-74	112	974	1454	2428
74-75	76	897	1306	2203
75-76	83	1022	1400	2422
76-77	86	1008	1471	2479
77-78	74	957	1576	2533
78-79	86	1127	1782	2909
79-80	83	972	1600	2572
80-81	81	1017	1553	2570

Table 7

Number of students learning job activities in high school in Accounting 10

	Schools	Male	Female	Total
1964-65	248	3066	4781	7847
65-66	201	3070	4186	7256
66-67	210	2933	4290	7223
67-68	251	3238	4713	7951
68-69	-No figures available -			
69-70	238	3364	5045	8409
70-71	56	433	637	1070
	- Bookkeeping 10 changed to Accounting 10 -			
70-71	199	2942	4345	7287
71-72	233	3924	5408	9332
72-73	246	4345	6621	10966
73-74	240	4516	6867	11383
74-75	249	5025	7461	12486
75-76	258	5460	7596	13056
76-77	256	5679	8684	14363
77-78	257	6047	9064	15111
78-79	264	6550	9860	16410
79-80	271	6985	10608	17593
80-81	270	6411	9545	15956

APPENDIX IV

Table 8

Number of students learning job activities in high school in Accounting 20

	Schools	Male	Female	Total
1964-65	119	350	673	1023
65-66	121	731	1370	2101
66-67	131	745	1446	2191
67-68	166	789	1415	2204
68-69		-No figures available -		
69-70	172	824	1818	2642
70-71	109	566	1158	1724
71-72	17	69	140	209
72-73	- Bookkeeping 10 changed to Accounting 20 -			
70-71	135	1032	1870	2902
71-72	193	1728	2946	4674
72-73	217	1913	3577	5490
73-74	217	2159	3886	6045
74-75	217	2381	4010	6391
75-76	221	2787	4631	7418
76-77	222	2796	4934	7730
77-78	232	3232	5316	8548
78-79	240	3319	5963	9282
79-80	245	3477	6091	9568
80-81	250	3404	6013	9417

Number of students learning job activities in high school in Accounting 30

	Schools	Male	Female	Total
1964-65	87	385	876	1261
65-66	36	152	192	344
66-67	51	189	301	490
67-68	61	227	304	531
68-69		-No figures available -		
69-70	65	224	410	634
70-71	81	294	573	867
71-72	109	464	974	1378
72-73	123	599	972	1571
73-74	139	604	1191	1795
74-75	151	701	1417	2118
75-76	149	876	1525	2401
76-77	148	982	1697	2679
77-78	152	954	1826	2780
78-79	166	1106	2022	3128
79-80	168	1146	2224	3370
80-81	174	1242	2309	3551

APPENDIX IV

Table 9

Number of students learning job activities in high school in Data Processing 20

	Schools	Male	Female	Total
1976-77	42	471	649	1120
77-78	40	363	605	968
78-79	36	445	678	1123
79-80	39	485	632	1117
80-81	40	569	705	1274

Table 10

Number of students learning job activities in high school in Computer Science 30

	Schools	Male	Female	Total
1976-77	15	117	90	207
77-78	11	88	88	176
78-79	18	118	141	259
79-80	21	212	141	353
80-81	30	414	225	639

*Note: These tables were drawn from Department of Education Annual Reports, 1964-1981.

APPENDIX IV

Textbooks Accepted for Use
in the Teaching of
Recordkeeping, Bookkeeping and Accounting
by Province

	Textbook	BC	NT	YT	NF	PE	NS	NB	PQ	ON	MB	SK	AB
1	Accounting I, Syme, Dixon; 1970	X	X	X					X	X			X
2	Basic Bookkeeping, Seggie et al								X			X	
3	Canadian Accounting Practice, Leonard, Beard; 1963								X	X			
4	Canadian Accounting Practice, Leonard et al; 1964								X				
5	Canadian Bookkeeping Practice, Spaling; 1971								X				
6	Debit Equals Credit, Taylor; 1962								X	X		X	
7	Elements of Accounting, Kaluza; 1969	X	X	X	X		X	X	X		X		X
8	FACT, Seggie, Hutton; 1970	X		X					X	X			
9	Introduction to Accounting, Pilcher; 1970								X				
10	Projects in Recordkeeping; 1969								X				
11	20th Century Bookkeeping and Accounting, Introduction, Boynton et al; 1969		X			X	X		X			X	X
12	20th Century Bookkeeping, Accounting, Advanced, Boynton et al; 1970	X	X	X			X		X				X
13	Canadian Recordkeeping Practice, Sparling; 1972		X							X		X	X
14	Applied Accounting Projects, D'Amico and Wilson; 1973									X			
15	Introduction to Accounting, Revised Edition, Pilcher; 1972	X		X						X			
16	Basic Accounting Practice, Revised Edition, Seggie and Robinson; 1965	X		X						X			

APPENDIX IV

Textbooks Accepted for Use
in the Teaching of
Recordkeeping, Bookkeeping and Accounting
by Province

	Textbook	BC	NT	YT	NF	PE	NS	NB	PQ	ON	MB	SK	AB
17	Accounting Principals for Canadians, Pilcher; 1973									X			
18	Elements of Accounting, Advanced, Kaluza; 1971	X		X			X	X		X	X		
19	The Accounting Assistant, Lund; 1967											X	
20	20th Century Advanced, Ferguson; 1970					X						X	
21	Accounting, Meigs et al; 1964	X		X									

Baruch College
The City University of New York
17 Lexington Avenue
New York
N.Y. 10010

OCT 09 1979

Appendix V

29 September 1979

Mr. D. J. Mortimore
Business Education Consultant
Calgary Regional Office
Alberta Education Dept.
1200 Rocky Mountain Plaza
615 MacLeod Trail, S.E.
Calgary, Alberta
CANADA T2G 4T8

Dear Mr. Mortimore

Your letter to me of 22 June was just forwarded to me. I have been for several years now at the letterhead address, not at CUNY's Institute for Occupational Education.

Yes, you certainly may adapt my bookkeeping questionnaire for your dissertation purposes. I do not have a copy of it here at home, but I do recall the inadvertent omission of a question in the 90's (94 or 95, I think) having to do with a post closing trial balance. You may wish to insert that missing activity.

All good wishes on your thesis research. Do give my personal and professional greetings to Professor Farmer.

Sincerely,

Leonard J. West
Professor

Alberta Education

Room 1200
Rocky Mountain Plaza
615 MacLeod Trail SE
Calgary, Alberta
T2G 4T8

1980 06 13

Dear Sir

Alberta Education, through the Business Education Curriculum Coordinating Committee, is presently undertaking a complete revision of the Secondary School Business Education Curriculum. Businessmen throughout the province, particularly through their respective Chambers of Commerce, have demonstrated their concerns about the need for a strong and relevant business education program.

As Chairman of the Business Education Curriculum Coordinating Committee, which is responsible for curriculum development on a provincial scale, I am seeking your cooperation in order to complete a study of the on-the-job activities of entry-level recordkeeping/bookkeeping/accounting employees. Entry-level employees are those employees who have up to three years experience in their current positions. Recordkeeping-/bookkeeping/accounting activities, according to the Canadian Classification and Dictionary of Occupations, are those activities which are concerned with " . . . classifying and recording information about monetary transactions or activities and transferring this data into accounts and quantitative records; paying and receiving money; performing duties of a clerical nature concerning insurance, banking, finance and real estate; and keeping statistical records."

The study will assess the congruency, if any, which exists between the financial activities which are taught in secondary school accounting classes and those on-the-job financial activities which are actually being performed by entry-level employees.

. . . 2

To participate in this pertinent study simply list the names of your entry-level bookkeepers and a contact person, to whom any future communication may be directed, on the enclosed form and return it in the stamped, self-addressed envelope provided. Each of the persons you have identified will be sent a questionnaire and a covering letter, copies of which have been included for your perusal. There are no questionnaire items included which could betray the confidentiality of your firm's records. The employee will be asked to complete the questionnaire on his own time and to promptly return it.

Your cooperation and that of your employees is very much appreciated. Your contributions will greatly assist in the revision of the Business Education Curriculum throughout Alberta; and ultimately provide businessmen with even better qualified high school graduates.

Yours sincerely

Douglas J. Mortimore
Researcher and
Business Education Consultant

hs

enc

Survey of Recordkeeping/Bookkeeping/Accounting Activities

Company Name .....
Company Address .....
.....
Name of Contact Person .....
Position .....
Telephone .....

List of Participants

1. Name .....
   Position .....
   Telephone ..... Local .....

2. Name .....
   Position .....
   Telephone ..... Local .....

3. Name .....
   Position .....
   Telephone ..... Local .....

4. Name .....
   Position .....
   Telephone ..... Local .....

5. Name .....
   Position .....
   Telephone ..... Local .....

6. Name .....
   Position .....
   Telephone ..... Local .....

7. Name .....
   Position .....
   Telephone ..... Local .....

8. Name .....
   Position .....
   Telephone ..... Local .....

9. Name .....
   Position .....
   Telephone ..... Local .....

Alberta Education

Planning and Research Branch
9th Floor, Devonian Building
11160 Jasper Avenue
Edmonton, Alberta
T5K 0L2

1980 06 13

Dear

Alberta Education, through the Business Education Curriculum Coordinating Committee, is presently undertaking a complete revision of the secondary school business education program.

A major information source for this revision will be a study of the job duties of entry-level financial employees. The study will assess the congruency, if any, which exists between the financial activities which are taught in secondary school accounting classes and those on-the-job financial activities which are actually being performed by entry-level recordkeeping/bookkeeping/accounting employees.

Please complete the questionnaire, which will take approximately thirty minutes of your time, and return it in the enclosed self-addressed, stamped envelope.

There are several items to which you should pay particular attention prior to completing the questionnaire. First, answer the questions even if your job duties are computerized and are not done manually. Second, read the instructions preceding the section on "Details of Present Job Activities" very carefully. Third, the descriptions of the job activities within the section "Details of Present Job Activities" are grouped under separate headings and although a number of the headings may not appear to apply to you, you should still record an answer in the "Perform" column for each question.

All information received will remain strictly confidential.

. . . 2

Your assistance is greatly appreciated. If you would like to receive a copy of the executive summary of the study, please check the appropriate box on the last page when you return your completed questionnaire.

Your concern about secondary school business education programs and your willingness to get involved through participation in this study bodes well for future business education programs.

Yours sincerely

Douglas J. Mortimore
Researcher and
Business Education Consultant

hs

enc

Please return this questionnaire to: Douglas J. Mortimore

FOR OFFICE USE ONLY

I.D. No. _ _ _ _

Date Received _ _ / _ _ / _ _

Matrix Reference _ _

Appendix VI

SURVEY OF BOOKKEEPING AND ACCOUNTING ACTIVITIES

Your Name _____
(Please print) (last) (first) (initial)

Firm Name _____

Firm Address _____
(street)

_____
(city) (postal code)

Office Phone Number _____ Extension or Local _____

Today's Date _____
(year/month/day)

DIRECTIONS. As indicated, please check or circle or print your answers.

OFFICE USE ONLY

1. Check the type of business you are employed in (if not sure ask your supervisor):

   ____ Agriculture
   ____ Forestry
   ____ Fishing and Trapping
   ____ Mines, Quarries and Oil Wells
   ____ Manufacturing
   ____ Construction
   ____ Transportation, Communication and Other Utilities
   ____ Trade (Wholdesale - Retail)
   ____ Finance, Insurance and Real Estate
   ____ Industry Unspecified

2. Indicate the total number of employees in your firm or establishment.

   ____ 1 - 5
   ____ 6 - 15
   ____ 16 - 25
   ____ 26 - 50
   ____ 51 - 100
   ____ 101 or more

3. Age: 16 - 24 ____ 25+ ____

4. Sex: M ____ F ____

5. Are you a high school graduate: Yes ____ No ____

6. In what year did you graduate from high school:

   ____
   (year)

7. Circle the number of years in high school that you studied:

   Recordkeeping 0 1 2 3 4

   Bookkeeping and/or Accounting 0 1 2 3 4

OFFICE USE ONLY

8. How many years did you attend (circle one at each level)?

   Private Business School
   0 1/2 1 1 1/2 2 2 1/2 3 4 5+

   Vocational College
   0 1/2 1 1 1/2 2 2 1/2 3 4 5+

   Institute of Technology
   0 1/2 1 1 1/2 2 2 1/2 3 4 5+

   Community College
   0 1/2 1 1 1/2 2 2 1/2 3 4 5+

   University
   0 1/2 1 1 1/2 2 2 1/2 3 4 5+

   Other (specify) _____
   0 1/2 1 1 1/2 2 2 1/2 3 4 5+

9. Did you earn a certificate, diploma or degree from the:

Private Business School	Yes ___	No ___
Vocational College	Yes ___	No ___
Institute of Technology	Yes ___	No ___
Community College	Yes ___	No ___
Univesity	Yes ___	No ___
Other	Yes ___	No ___

10. How many post-high school bookkeeping and/or accounting courses have you taken (circle one)?

    0 1 2 3 4 5 or more

PRESENT EMPLOYMENT

11. What is your present job title? (Examples: accounting clerk, accounts receivable clerk, payroll clerk, posting clerk, assistant bookkeeper, bookkeeper)

    Your title _____

12. How many years have you worked for your present employer?

    0 1/2 1 1 1/2 2 2 1/2 3 4 5 or more

OFFICE USE ONLY

13. Are you employed, (check one)

Full time ____

Part time ____

14. How many years have you worked at your present duties for your present employer?

0 1/2 1 1 1/2 2 2 1/2 3 4 5 or more

15. In your opinion did you learn to perform your present duties in the general field of record-keeping/bookkeeping/accounting without previous formal high school training?

Entirely ___ Mostly ___ Partly ___
Not at all ___

16. In your opinion did you learn to perform your present duties in the general field of record-keeping/bookkeeping/accounting without previous formal post high school training?

Entirely ___ Mostly ___ Partly ___
Not at all ___

17. Check one of the following which most closely represents the training background your present employer required you to have for your present duties in the field of recordkeeping/bookkeeping/accounting:

___ previous high school training
___ previous post high school training
___ previous job experience
___ all school training and job experience about equally
___ I don't know

18. How many hours per day do you spend working directly on recordkeeping/bookkeeping/accounting duties? (circle the nearest whole number)

1 2 3 4 5 6 7 8

19. In your firm how good are the promotional opportunities in recordkeeping/bookkeeping/accounting?

Good ___ Fair ___ Poor ___ Don't Know ___

20. What is the job title of your immediate superior?

Title _____

21. What is the title of the next highest position above yours to which you could be promoted?

Title _____

22. Have you been promoted since beginning work for your present employer?

Yes ____ No ____

23. If so, what was your job title?

Title _____

24. Check one of the following which most closely represents the criteria for promotion in your firm:

___ mostly high school training
___ mostly post high school training
___ mostly job experience and performance
___ all school training and job experience about equally
___ I don't know

OFFICE USE ONLY

If your present job is your first job, omit Questions 25 and 26 and continue with Question 27.

PREVIOUS EMPLOYMENT

25. On your first job in the field of recordkeeping/bookkeeping/accounting

What was your job title? _____

How many years did you hold that job?

0 1/2 1 1 1/2 2 2 1/2 3 4 5 or more

Did your employer require previous formal high school training? Yes ____ No ____

Did your employer require previous formal post high school training? Yes ____ No ____

In your opinion did you learn to perform your duties without previous formal high school training?

Entirely ____ Mostly ____ Partly ____

Not at All ____

In your opinion did you learn to perform your duties without previous formal post high school training?

Entirely ____ Mostly ____ Partly ____

Not at All ____

26. ONLY IN THE BOOKKEEPING FIELD--excluding other jobs:

For how many different employers have you worked (include your present job)? _____

What is the total number of years of your employment in the bookkeeping field?

0 1/2 1 1 1/2 2 2 1/2 3 4 5 or more

In your opinion did you learn to perform your bookkeeping duties without previous formal high school training?

Entirely ____ Mostly ____ Partly ____
Not at All ____

In your opinion did you learn to perform your bookkeeping duties without previous post high school training?

Entirely ____ Mostly ____ Partly ____
Not at All ____

PRESENT JOB DUTIES

Use of business machines

27. In a typical work week approximately how many hours do you spend at a typewriter? (Circle one)

0 1/2 1 2 4 8 16 or more

OFFICE USE ONLY

28. If you do type, indicate the number of hours per week you typically spend on the following activities:

Letters, memos or reports _____

Statistical Tables or Standard Business Forms _____

Other (specify) _____ _____

_____ _____

_____ _____

29. Indicate other kinds of machines you use and the number of hours you operate the machine during a typical week.

MACHINE	HOURS
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

30. In which of the areas below does your employer use a computer or computer services to generate bookkeeping and accounting records? (If you are not sure, ask your supervisor.)

_____ Payroll

_____ Inventory

_____ Sales

_____ Accounts Receivable

_____ Purchases

_____ Accounts Payable

_____ Other bookkeeping areas (describe)

_____

_____

_____

Job Overview

31. Check the range of hours that most closely represents the amount of time in a typical week you spend in making calculation, both manually and by machine, (adding totals, subtracting discounts, computing percentages, checking arithmetic, etc.)

0 _____ 20 to 29 _____

1 to 9 _____ 30 or more _____

10 to 19 _____

OFFICE USE ONLY

32. If you use a desk calculator, what kind is it?

___ do not use a desk calculator
___ ten-key calculator
___ full-keyboard calculator
___ rotary calculator
___ comptometer
___ other (please specify) _____

33. If you use a hand calculator, who provided it?

___ do not use a hand calculator
___ my employer
___ it is my own

34. Is your hand calculator programmable?

Yes ____ No ____

35. Check the range of hours you spend in a typical week in routine hand copying or transcribing of information from one record to another, not counting permanent original financial records.

0 ____ 20 to 29 ____

1 to 9 ____ 30 or more ____

10 to 19 ____

36. In general, do you have final responsibility for your work or is it usually checked or verified by someone else?

Final responsibility ____

Checked by someone else ____

37. Show which of the following journals you use on your job by circling the number of money columns found in that journal. (If you do not use the journal, circle the n/a)

General
n/a 1 2 3 4 5 6 7 8 9 10 11+

Sales
n/a 1 2 3 4 5 6 7 8 9 10 11+

Purchases
n/a 1 2 3 4 5 6 7 8 9 10 11+

Combination Cash Receipts and Cash Payments
n/a 1 2 3 4 5 6 7 8 9 10 11+

Cash Receipts
n/a 1 2 3 4 5 6 7 8 9 10 11+

Cash Payments
n/a 1 2 3 4 5 6 7 8 9 10 11+

38. Do you post to the general ledger?

Yes ____ No ____

39. Do you post to one or more subsidiary ledgers?

Yes ____ No ____

40. If yes, to which subsidiary ledgers?

___ Accounts Receivable
___ Accounts Payable
___ Other (specify) _____

_____

_____

DETAILS OF PRESENT JOB ACTIVITIES

Instructions

Respondents are cautioned that they are not expected to have performed all of the job activities listed below.

For each job activity, check in the PERFORM column either Yes or No to indicate if you perform that duty on your present job. THEN--

If your answer is Yes, check in the LEARN column to show where you learned to perform that activity. Check the HS (High School), the PHS (Post High School), or the Job column--or check the combination that applies.

	PERFORM		LEARN		
	NO	YES	HS	PHS	JOB
(A) Sales or Services Rendered					
1. Do you decide or help to decide to whom credit should be extended?					
2. Do you keep records of merchandise stock numbers sold or types of services rendered?					
3. Do you list (by salesman, week, territory, or type of service) customers, subscribers, clients or patients?					
4. Do you prepare sales invoices or bills for services rendered?					
5. Do you prepare credit memos?					
6. Do you keep records of sales taxes charged?					
7. Do you calculate amounts (such as extensions, discounts, allowances, deductables, taxes or freight charges) for recording on sales invoices or bills?					
8. Do you list and/or total sales invoices, bills or credit memos?					
9. Do you make entries in a sales journal or a journal for services rendered?					
10. Do you record C.O.D. sales in a journal?					
11. Do you make entries in a sales returns and allowances journal?					
12. Do you calculate salesmen's commissions or expenses?					
(B) Cash Receipts					
13. Do you claculate discounts, allowances, or partial payments before incoming cheques are recorded?					
14. Do you calculate payments received as grants or budgetary allocations?					
15. Do you enter incoming cheques in a cash receipts journal?					
16. Do you record bank deposits in a cash receipts journal?					
17. Do you start each month's cash receipts journal with a cash balance from the previous month?					
18. Do you total cash receipts records, registers or journals?					
19. Do you make journal entries for cash received on installment sales.					
20. Do you use a cash register?					
21. Do you count cash received or prove correctness of cash on hand with totals in a cash register?					
22. Do you keep records of sales taxes collected?					
23. Do you collect cash from two or more registers and record the totals?					
24. Do you keep records of expenses, purchases or drawings paid for by cash taken from daily receipts?					
25. Do you make entries for discounting notes payable?					
(C) Accounts Receivable					
26. Do you record and/or post invoices, bills or credit memos to accounts of customers, subscribers, patients, clients, grantors, etc.?					
27. Do you post payments received to client's accounts?					
28. Do you key off or letter off entries in accounts?					
29. Do you find balances in accounts?					
30. Do you prepare statements of accounts?					
31. Do you list or prepare schedules of end-of-month balances of accounts?					
32. Do you age accounts receivable (to identify how long they are past due)?					
33. Do you keep records of accounts written off as bad debts?					

	PERFORM		LEARN		
	NO	YES	HS	PHS	JOB
(D) Purchases or Services Rendered					
34. Do you prepare purchase orders or requisitions?					
35. Do you compare merchandise or services received with purchase invoices or bills received?					
36. Do you code purchase invoices or bills received to indicate the nature of the purchase or service?					
37. Do you record purchase quantities on inventory, stock, or open-to-buy records?					
38. Do you compare the total of purchase invoices or expense vouchers with amounts budgeted for them?					
39. Do you prepare credit slips for returned purchases or for errors on purchase invoices?					
40. Do you calculate due dates on purchase invoices, vouchers or bills received?					
41. Do you prepare vouchers for incoming purchases or contracted services?					
42. Do you enter purchases or bills for services in a purchases journal or journal for services received?					
43. Do you make entries in a journal that has departmental column headings?					
44. Do you enter vouchers in a voucher register?					
45. Do you make entries in a purchase returns journal?					
(E) Cash Disbursements					
46. Do you prepare stubs and cheques for cash disbursements?					
47. Do you code cheques or stubs by function?					
48. Do you enter issued cheques in a cash payments journal?					
49. Do you make entries in a cheque register that is part of a voucher system?					
50. Do you verify correctness of cash journals by comparing balances in journals with balances in a cheque book?					
51. Do you make entries relating to operating expenses, such as rent, telephone, electricity, etc.					
52. Do you make entries for proprietor's personal drawings?					
53. Do you reconcile the bank statement balance with the cheque book or cash journal balance?					
54. Do you make entries for bank charges and collection charges?					
55. Do you use a pegboard or other "one-write" system for cash receipts or cash payments?					
56. Do you make entries in journals for collection or payment of notes receivable or notes payable?					
(F) Accounts Payable					
57. Do you post purchase or return amounts in creditors' or vendors' accounts?					
58. Do you post to creditors' accounts the amounts of cash paid to them?					
59. Do you compare statements received from creditors with balances in their accounts?					
60. Do you list or prepare schedules for end-of-month balances in creditors' accounts?					
(G) Merchandise Records					
61. Do you keep cost records (such as standard costs, production costs, etc.) for manufacturing departments?					
62. Do you prepare charge clips to subcontractors for merchandise sent to them?					
63. Do you keep records of merchandise and money received from or due to subcontractors?					
64. Do you prepare charge clips or credit slips for merchandise shipped to or from branches or subsidiaries?					
65. Do you make journal entries for merchandise shipped or received on consignment?					
66. Do you price and/or total merchandise for physical inventory?					
67. Do you compare physical inventory count with inventory or stock records?					
(H) Petty Cash					
68. Do you prepare petty cash slips or vouchers?					

	PERFORM		LEARN		
	NO	YES	HS	PHS	JOB
69. Do you enter petty cash slips or vouchers in a petty cash book or journal?					
70. Do you post directly from the petty cash journal to the general ledger?					
71. Are you responsible for maintaining the petty cash box or drawer?					
(I) Payroll					
72. Do you prepare time cards for employees?					
73. Do you calculate time worked by employees?					
74. Do you calculate gross earnings of employees?					
75. Do you calculate piecework earnings by employees?					
76. Do you calculate payroll deductions for taxes, U.I.C., C.P.P., hospitalization, etc.?					
77. Do you enter payroll information in a payroll book or register?					
78. Do you record payroll entries in a cash payments journal?					
79. Do you post directly from the payroll journal to the general ledger?					
80. Do you enter payroll information on the earnings records of individual employees'?					
81. Do you prepare forms for depositing employees' and employer's payroll taxes at the bank?					
82. Do you make journal entries for depositing employer's and employees' payroll taxes at the bank?					
83. Do you total the earnings records of individual employees' at the end of each month?					
84. Do you prepare quarterly payroll tax reports for federal, provincial or municipal governments?					
85. Do you total the earnings records of employees for the year?					
86. Do you prepare information for employees' T-4, T-4A, T-5, etc. forms?					
(J) Financial Statements					
87. Do you prepare sales or commercial rent tax returns?					

	PERFORM		LEARN		
	NO	YES	HS	PHS	JOB
88. Do you prepare trial balances?					
89. Do you prepare work sheets for balance sheets or income statements?					
90. Do you prepare a post-closing trial balance?					
91. Do you prepare balance sheets or income statements?					
92. Do you prepare comparative balance sheets or comparative income statements?					
93. Do you prepare income tax or franchise tax returns for your employer?					
94. Do you use financial statements as a basis for preparing current ratios, working capital or merchandising turnover?					
95. Do you calculate the distribution of net profits for a partnership?					
(K) General Ledger and General Journal					
96. Do you keep records or accounts for mortgage interest and principal?					
97. Do you record entries in the general journal?					
98. Do you record entries in the general journal for appropriations granted to your department or fund?					
99. Do you make entries in the general journal for anticipated revenues for your department or fund?					
100. Do you post from the general journal to the general ledger?					
101. Do you record notes receivable or notes payable in the general journal or other journals?					
102. Do you record entries relating to interest income or interest expense?					
103. Do you reconcile accounts receivable or accounts payable with general ledger accounts?					
104. Do you record payroll entries in the general journal?					
105. Do you reconcile payroll records with general ledger accounts?					
106. Do you prepare adjusting entries for bad debts or depreciation?					

	PERFORM		LEARN		
	NO	YES	HS	PHS	JOB
107. Do you make adjusting entries for accrued expenses (unpaid salaries, etc.)?					
108. Do you prepare adjusting entries for deferred expenses (unexpired insurance, supplies on hand, etc.)?					
109. Do you make adjusting entries for accrued or deferred income?					
110. Do you make formal correction entries (such as reversal entries, etc.) in the journals and ledgers when mistakes are found?					
111. Do you make entries for recovery of bad debts previously written off?					
112. Do you keep drawing and capital accounts for an individual proprietorship or partnership?					
113. Do you make entries for earnings and dividends in capital stock, retained earnings, and other capital accounts?					
114. Do you make entries to close income and expense accounts at the end of the fiscal year?					
115. Do you make, of necessary, reversal entries in the general journal?					
(L) Data Processing					
116. Do you make calculations in connection with entering financial data on coding or input sheets for data processing?					
117. Do you enter financial data on coding/input forms for data processing?					
118. Do you compare data processing coding/input forms with original bookkeeping and business papers?					
119. Do you enter coding information on business papers in preparation for data processing?					
120. Do you compare or balance data processing printouts with original business papers?					
121. Do you enter corrections on coding/input forms for data processing?					
122. Do you enter inventory information on coding forms?					
123. Do you examine data processing records to verify complaints?					
124. Do you examine data processing records to find requested information?					
125. Do you prepare flow charts for data processing systems?					
(M) Miscellaneous					
126. Do you keep a register of your organization's insurance policies?					
127. Do you file claims for losses covered by insurance?					
128. Do you calculate amounts of interest income or interest expense?					
129. Do you record entries in notes receivable or notes payable registers?					
130. Do you keep a subsidiary ledger or other record for plant, equipment or other fixed assets?					
131. Do you keep subsidiary ledgers for individual grants or appropriations?					
132. Do you make entries in journals that differ from their column headings (double posting, negative entries, etc.)?					

You have been most cooperative. MANY THANKS! Please check to see that you have left no questions unanswered and return your completed questionnaire in the return envelope that has been provided.

Have we forgotten anything? Is there anything else you do in the general field of recordkeeping/bookkeeping/accounting that we have not asked about? If so, please list those activities below. Assign a number to <u>each</u>, beginning with 133.

133. _____

_____

_____

_____

_____

REVIEW OF LITERATURE

Bangs, F.K. and Hillestad, M.C. Curricular Implications of Automated Data Processing for Educational Institutions. 1968.

1. Purpose:

To provide guidance for schools in evaluating existing programs and for establishing new programs in integrated data processing.

2. Scope:

Included 176 school systems. The schools were determined by location near businesses.

Interviewers covered 39 states seeking information on the effect future technological development would have on the training of data processing employees.

3. Methodology:

A sample survey using interviews and questionnaires was made by seven teams of two trained interviewers. This permitted collection of data from schools and businesses concurrently.

NEA small sample techniques were used.

Sources used for study included managers of DP departments, teachers of DP, employees in DP departments, and advance planning executives of computer manufacturers.

4. Findings:

Fell into three categories concerning jobs and job opportunities in data processing; concerning teachers of data processing; and, concerning data processing.

With increasing use of time sharing, many clerks will be originating and putting data into the system. This does not necessarily mean holding a job classified as a data processing position.

Mathematics is considered a pre-requisite for data processing because of its logic values.

Emphasis was given to communication skills, both written and oral.

Fairbank, R.E. A Followup of New York Staff High School Bookkeeping Students. New York State Education Department, 1967. (Eric Document Reproduction Service No. ED016837).

1. Purpose:

"... the major purposes of this study were to determine the extent to which the skills and knowledges included in the New York State syllabus-outlined Bookkeeping I and Bookkeeping II courses had been used by former bookkeeping students in their business life, post-high school education, and personal life; and the extent to which certain new topics, consisting of practices and procedures which appear to be increasing in the business world but which are not included in the present bookkeeping syllabus, have been used by former students." (page 2)

Specifically, the following was to be determined:

a. kind and amount of work involving bookkeeping in job after leaving school;

b. kind and amount of post-high school training and if it involved bookkeeping;

c. had knowledges and skills of bookkeeping been used in business and personal life; and,

d. had knowledges and skills not taught in bookkeeping been used in business and personal life.

2. Scope:

All students who had completed Bookkeeping I or II at some time during 1960-61 school year in 60 selected public high schools of New York State were included. The scope consisted of 5814 students which was roughly 10% of public high school bookkeeping population.

3. Methodology:

Questionnaires asked how often the respondant did something or used something. For example,

How often have you used the following business forms?
How often have you used the following journals?

4. Findings:

1. Uses in business life

a. Many had worked as bookkeepers or used skills and knowledges in non-bookkeeping office/store jobs.

b. For many it was terminal, vocational education.

c. Greater the amount of formal education the greater the probability of using it.

d. Full-time bookkeepers more common than part-time.

e. Employment in service businesses more common than manufacturing, merchandising and others.

f. Type of school had little, if any, effect on use of bookkeeping in business.

g. Uses of bookkeeping in business similar for respondants who had been out of high school for three, four, and five years.

h. Proportionally more females than males had worked as bookkeepers.

i. Bookkeeping items had highly variable uses in office/store situation.

2. Uses in personal life

a. Used in further post-high school education.

b. Specific items highly variable in personal life.

Lanham, F.W., Herschelmann, K.M., Weber, C.P., and Cook, F.S. Development of Performance Goals for a New Office and Business Education Learning System (NOBELS). U.S. Office of Education, Project No. 8-0414, 1970. (ERIC Document Reproduction Service No. ED 041139).

1. Purpose:

To determine the behaviours required for office employment which are relevant to tasks as they are performed on current and emerging jobs.

2. Scope:

A total of 1253 office workers and supervisors were interviewed, giving 1232 usable cases. The employees had a minimum of eight years experience. There was a two to one ratio of females to males.

Some 4548 basic tasks were given which gave 32,447 classified verbs. These were identified to a 108 verb listing and 375 performance goals.

3. Methodology:

It was a judgmental sampling design because of absence of resources to draw a more sophisticated sample representing national population.

Interviews and the Critical Incident Technique (Flanagan, 1954) were used.

4. Findings:

1. In the fundamentals of office task performance, needs included:
   a. Accuracy
   b. Inadequate communication skills, both oral and written
   c. Organizing and classifying both numerical and verbal information.
   d. Better interaction with other people.
2. Better means of describing jobs other than using Standard Industrial Classification (SIC).
3. Defensible ways of arranging learnings in a curricular program
   a. Not enough known about learner and types of learner. Not enough known about conditions of learning and strategies of instruction to get efficient performance.

Luxner, L.A. Factors Affecting the Employability of Vocational Bookkeeping Students. (Doctoral Dissertation, University of Pittsburgh, 1970). Dissertation Abstracts International, 1971, 31, 4643A. (University Microfilms No. 71-8003).

1. Purpose:

To determine the factors which affect entry-level employability of vocational bookkeeping students.

a. Factors relating to students' academic achievement and ability

i. achievement in bookkeeping
ii. overall academic achievement
iii. achievement in fundamentals - english and mathematics
iv. intelligence quotient
v. reading level

b. Students with supplemental skills (see below) more readily employed than others

i. typing
ii. clerical training
iii. office machine operation
iv. shorthand
v. number of business courses

c. Are there personal factors which affect employability

i. age
ii. previous work experience
iii. sex
iv. school attendance record
v. race
vi. economic status
vii. extra curricular activities
viii. business contacts

d. Aspects of student career objectives

i. desire to obtain employment as a bookkeeper
ii. availability of employment
iii. job seeking "know how"

3. Conditions in labour market having positive or negative effect

i. job competition
ii. demands of employers for experienced workers
iii. highly sophisticated accounting systems requiring specialized training
iv. employment procedures
- testing
- skills required

2. Scope:

Included 107 students in 32 business firms who were graduates from eight Pittsburgh high schools which offer vocational bookkeeping programs (graduates of urban high schools). Only graduates from vocational bookkeeping programs were polled. Employers were restricted to firms in Allegheny County, Pennsylvania. Also included analysis of help-wanted ads.

3. Methodology:

A follow-up on vocational bookkeeping graduates, survey of business and industry, and help wanted advertisement analysis were used.

Stratified random sampling technique was used. Used the Perkins Byrd and Roby model.

Instruments used were questionnaires given to both pre-graduates and post graduates, interviews, and tests.

The techniques were point biserial correlation (continuous to dichotomous), phi coefficient (dichotomous to dichotomous), Pearson Product Moment, x^2, and ANOVA.

4. Findings:

a. Academic preparation is a determinant of employability

i. achievement in bookkeeping is significant
ii. overall academic achievement is significant
iii. english and math are significant, with english having the higher predictive value. Also performance on NBE test of Business Fundamentals.
iv. Intelligence quotient was barely significant
v. reading level was not a factor

b. Supplemental skills

i. typing was most valuable
ii. clerical training was not significant but operation of adding machine was necessary
iii. office machine operation not significant but ads made it look so
iv. shorthand was significant because of its versatility
v. number of business courses were not significant

c. Personal factors

i. age was not significant
ii. previous work experience was not significant
iii. sex was not significant
iv. school attendance was not significant
v. race seemed significant but qualified
vi. economic status was not significant

v. race seemed significant but qualified
vi. economic status was not significant
vii. extracurricular activities were not significant
viii. business contacts were not significant

d. Career objectives

i. desire to be a bookkeeper was not significant
ii. availability was significant
iii. job seeking "know how" was significant

e. Labour market conditions

i. job competition was significant
ii. demand for experienced workers was significant
iii. complexity of accounting systems was not significant
iv. testing procedures were not significant
v. skills required were significant

Perkins, E.A., Byrd, F.R. and Roley, D.E. Clusters of Tasks Associated with Performance of Major Types of Office Work. U.S. Office of Education, Project No. 7-0031, 1968. (ERIC Document Reproduction Service No. ED 018 665).

1. Purpose:

To identify clusters of tasks performed by a comprehensive sample of office employees working at various sized offices across 12 Standard Industrial Classifications (SIC), and to identify capabilities required for modern office work.

2. Scope:

A proportional stratified sample was used of private firms (295) and government agencies (28). Five office-size categories within SIC were included.

3. Methodology:

The questionnaire contained 599 office stasks validated by interviews with 286 office workers, supervisors and a jury of experts. A total of 767 validated questionnaires were distributed yielding 86.4% return with 80.3% from the private sector and 96.8% from the government sector.

4. Findings:

a. Individual task items clustered within major categories: typewriting, filing and mailing. They were further clustered in broad categories of:

    a. supervisory
    b. secretarial/stenographic
    c. clerical
    d. bookkeeping/accounting
    e. business machine operators
    f. data processing.

b. Within each category, tasks performed were ranked.

c. Task items were frequency-of-performance grouped.

Reap, Margaret C. Job Task of the Beginning Accounting and Bookkeeping Worker Compared With the Content of the High School Accounting and Bookkeeping Curriculum. Unpublished Doctoral Dissertation, University of Houston, 1976.

1. Purpose:

"... to compare the actual job tasks of beginning accounting and bookkeeping workers with the job tasks included in high school accounting and bookkeeping textbooks."

2. Scope:

Reviewed literature between 1968-1975 and selected textbooks which had national use.

3. Methodology:

a. Collected and ranked job tasks by "frequency of job task representation" - derived from NOBELS.

b. Content analysis of textbooks.

c. Rank-correlation coefficient methods to determine relationship of a) to b).

d. Job tasks of beginning bookkeeping and accounting employees determined through a review of the literature from June 1, 1968 to December 31, 1975.

e. Content analysis based on volume of space and job tasks were synthesized into one list.

4. Findings:

a. No significant relationship between the NOBELS*task list and the curriculum job task list.

b. Grouped by category, no significant relationship was found between lists grouped by specific job tasks common to both lists.

c. Findings from comparing the contents of the two lists:

i. 150 job tasks on NOBELS but only 36 on curriculum job task list

ii. 36 job lists on curriculum list equals 34% of textbook volume in inches.

*New Office and Business Education Learning System, U.S. Office of Education, Project No. 8-0414, 1970.

iii. 66% of textbook volume related to categories, not specific job tasks.

iv. Job tasks ranked 1-39 on NOBELS list equalled 75% of total task sheet representation. 21 of the job tasks equalling 46% of total task sheets were found on curriculum list.

v. Categories ranked 1 and 2 on the curriculum list, i.e., Category 7 (General Journal and General Ledger) and Category 8 (Financial Statements) were the two categories ranked lowest on the NOBELS list.

vi. Categories ranked 1, 2, 3 on NOBELS list, i.e., Category 1 (Sales and Accounts Receivable), Category 6 (Electronic Data Processing) and Category 3 (Cash Receipts and Cash Disbursements) were ranked 4, 5 and 3 on curriculum list.

Rypien, L., and Kashuba, S.C. Business Education in Alberta High Schools, 1975. Edmonton Regional Office, Department of Education, Edmonton, Alberta.

1. Purpose:

To study some very basic considerations concerning business education in Alberta. Aspects included herein are:

a. number of full-time-equivalent (fte) students enrolled in business education courses.

fte-- is one who is enrolled in 25 business education during a school year. Note x/25. Note: fte teacher is x/35.

b. ratio of fte students to total high school enrollment.

c. ratio of business credits offered to the total credits offered.

d. ratio of enrollment of student-business-education courses to total high school enrollment.

Note: one student-business-education course represents one student enrolled in one business education course.

e. adequacy of supply of qualified business education teachers.

f. qualification of present business education teachers.

g. adequacy of communication of the goals and philosophy of business education by business education teachers.

h. enrollment trends in business education courses.

i. adequacy of business education course sequences.

j. need for development of new courses in the business education field.

k. effectiveness of business education curriculum development by committees.

2. Scope:

Sent to all prinicipals and superintendents (with over 1 or more high schools) in the province of Alberta.

3. Methodology:

Research instrument was a survey which was completed and distributed in mid-June 1975.

4. Findings:

On the basis of the survey distributed to principals and superintendents, the following conclusions could be drawn:

1. The number of students enrolling in business education courses is increasing. However, this increase is not enough to meet the demands of business and industry.

2. Despite increasing enrollments in business education, two-thirds of the respondents indicated that they are not increasing business education offerings. The main reason listed as to why business education offerings are not being increased was lack of funding.

3. About one in three high schools indicated they currently are in need of a qualified business education teacher. Within the next five years, one in two Alberta high schools will require additional teachers.

4. In 1974-1975, 37.1 per cent of teachers who taught some business education courses were not qualified (business education was neither their major or minor area of specialization).

5. Course dequences that received the highest responses as having inadequate content were: Business Machines 22 and 30, Economics 30, Law 20 and Recordkeeping 10.

6. Courses in agribusiness and dictatyping were considered worth developing.

7. A comparison of the total business credits offered to the total high school credits offered yielded an average ratio of .17. This can be interpreted to mean that, on the average, out of every five credits offered in a high school, one was in the business education field.

8. Business education curriculum development by curriculum committees was thought to be effective. However, respondents thought that the board and committees should be further supplemented so that there would be greater direct participation.

(page 46).

Spanswick, R.S. An Investigation to Determine the Qualifications and Skills Desired, Accepted, and Actually Used in Manual Bookkeeping Jobs Which Were Listed in Chicago and New York City Newspapers During the Months of May and August, 1966. (Doctoral Dissertation, Northern Illinois University, 1967). Dissertation Abstracts International, 1968, 28, 2835A. (University Microfilms No. 68-1120)

1. Purpose:

To identify a number of jobs for which experienced and non-experienced employees with only a one year course in bookkeeping were employed; and, to examine the nature of job activities performed in relation to previous experience, if any, and their one year bookkeeping course. (These were manual bookkeeping jobs. No machines such as bookkeeping machines or automated equipment was included.)

2. Scope:

Attempted to contact over 1000 businesses who advertised bookkeeping jobs in the help wanted section of four Chicago and three New York newspapers. Businesses that hired someone with one year high school bookkeeping were sent two questionnaires; one questionnaire was related to the nature of the business and accounting records maintained: the other questionnaire was related to the type of bookkeeping activities performed on the job. The former was completed by the employer and the latter was completed by the employee.

There were 1,186 jobs advertised in New York and Chicago. The attempted contact was 1073, but secured information on 703 jobs where 411 believed that one year of bookkeeping was enough to handle the job; 288 needed more than one year; and four required no formal training.

Questionnaires from 80 bookkeeping jobs were used; i.e., 80 management and 80 employees (40 from each city).

3. Methodology:

a. surveyed want ad sections of newspapers in Chicago and New York;

b. sent out questionnaires;

c. used χ^2 test to determine if significant differences existed between the two groups and the activities performed; and,

d. size of sample determined by sequential analysis; addition of more subsamples did not change result too significantly.

4. Findings:

a. from Chicago only jobs open to persons with only one-year bookkeeping were part-time bookkeeper and accounts payable bookkeeper. From New York they were more willing to hire with only one year bookkeeping but they required previous experience. The job of billing clerk was open to those with one year bookkeeping and no previous experience.

b. job titles and position-holders;

i. majority of the 80 jobs were full charge bookkeepers, accounting or bookkeeping clerks, and assistant bookkeepers;
ii. more than 86% were women;
iii. all but 5% were high school graduates; and,
iv. fewer than 86% had previous experience.

c. the firms where the jobs existed;

i. majority were corporations;
ii. used double entry bookkeeping system;
iii. approximately 50% used data processing equipment to process some of their bookkeeping; and,
iv. use of data processing agencies not popular, 80% didn't use them.

d. bookkeeping activities performed;

i. top ten in descending order were:

work with debit and credit entries
prepare cheques for payment
prepare deposits
record information in cash receipts journal
balance ledger accounts
record information in CP journal
post items to accounts receivable and/or accounts payable subsidiary ledgers
reconcile bank statement with bank book
prepare scheduled of accounts receivable
check employee time cards

ii. all tasks were performed by more than 50% of employees; six were performed everyday; preparing deposits was most often on a daily basis;
iii. most didn't believe high school bookkeeping was helpful;
iv. very few required on-the-job training; and,
v. activity performed by fewest was preparation of income tax (6% of 80).

e. one year bookkeeping requirement;

i. slightly more than 50% of firms felt it was essential; and,
ii. employers wanted employees capable of operating typewriter, adding machines, and possibly a calculator.

West, Leonard, J. Survey of Entry-Level Bookkeeping Activities in Relation to the High School Bookkeeping Curriculum. City University of New York, New York Institute for Research and Development in Occupational Education, 1973 (ERIC Document Reproduction Service No. ED 086 873).

1. Purpose:

The general purpose was to supply the information which could be used for the potential modification of the high school courses of study in recordkeeping/bookkeeping/accounting.

The major information sought was: what components of recordkeeping/bookkeeping/accounting represent activities engaged in by entry level employees; and, what activities of entry level employees, especially data processing ones, are not included in the standard high school curriculum.

Other information sought was: what differences are in work activities because of type and size of firm; how dependent is employment and promotion on formal school training in bookkeeping; and, what data processing job activities require cognitive knowledge of bookkeeping and accounting concepts and principles.

2. Scope:

731 "eligible" private employers were used who conducted accounting operations within New York State; as well as small firms who were employing any person whose duties included bookkeeping, and with large firms who were employing at least one full time entry-level bookkeeper.

1,191 questionnaires were sent out and 597 questionnaires which were usable were received back. New York City data only was used for study.

3. Methodology:

a. used questionnaires and interviews;

b. derived job activities for questionnaire from New York City syllabus for "Recordkeeping in High Schools" (1970) and New York State's "Bookkeeping and Accounting I and II Syllabus" (1970);

c. checked national applicability of activities against eight textbooks and matched contents of one book against questionnaire items;

   i. determined if notional flavor;
   ii. determined what notional instruction not covered by questionnaire.

d. sampled from population of all New York City private (nongovernmental) employers. Stratified on the basis of type (SIC number) and size (ranges of employees);

e. employees were drawn from within sample of employees:

   i. selected randomly from larger firms (employing ten or more);
   ii. covering letter and questionnaire went to smaller firms (up to nine employees).

f. upstate sampling:

   i. three areas used: Auburn, Batavia, Elmira;
   ii. selected 190 employers based on 1970 census data;
   iii. used every 11th page of yellow pages in telephone directory for random selection;
   iv. questionnaires and letter mailed out; and,
   v. classification by type and size.

4. Findings:

a. recordkeeping was found to be nonfunctional;

b. data processing course makes no visible contribution to bookkeeping, most of activities can be learned on the job;

c. bookkeeping occupations do not necessarily require prior high school training nor do they stimulate further post high school training; and,

d. work experience and post high school training major factors in job promotion.

BIBLIOGRAPHY

Advanced Education and Manpower. Summary of Canadian Occupational Forecast (COFOR) Model Results for Alberta. 1975-1982.

Bangs, F.K., and Hillestad, M.C. Curricular Implications of Automated Data Processing for Educational Institutions. 1968.

Breton, Raymond. Social and Academic Factors in the Career Decisions of Canadian Youth. Manpower and Immigration, Ottawa, 1972.

Canadian Classification and Dictionary of Occupations. Volume 1, Classification and Definitions; Volume 2, Occupational Qualification Requirements, 1973.

Canadian Occupations. Monographs. Prepared by Occupational Analysis Section, Occupational Research Division, Ottawa.

Cochran, William, G. Sampling Techniques. 3d ed. New York: John Wiley & Sons, 1977.

Conger, D. Stuart. Canadian Occupational Groups. Training Research and Development Station, Prince Albert, Saskatchewan, 1973. (ERIC Document Reproduction Service No. ED 087 909) 6 volumes.

Cook, F.S., and Maliche, E. Office Machines Used in Business. Delta P. Epsilon Journal, 1966, 8(3), 1-16.

Curless, Jack C. A Comparative Analysis Between 1969 and 1973 of the Minimum Educational Requirements Necessary for Entry into Thirteen Types of Electronic Data Processing Positions. Northern Illinois University, 1973.

Erdos, Paul L. Professional Mail Surveys. New York: McGraw-Hill, 1970.

Fairbank, R.E. A Followup of New York Staff High School Bookkeeping Students. New York State Education Department, 1967 (ERIC Document Reproduction Service No. ED 016837).

Guilford, J.P. Fundamental Statistics in Psychology and Education. (4th Ed.) New York: McGraw-Hill, 1965.

Hansen, M.H., Hurwitz, W.N., and Madow, W.G. Sample Survey Methods and Theory. New York: John Wiley & Sons, Inc., 1953. Volume I, Methods and Applications; Volume II, Theory.

1973 Industrial Directory (Manufacturers and Products). Edmonton: Business Development Department, The City of Edmonton.

Jones, Adaline D. A Survey to Determine the Knowledges and Skills Needed by Clerical Workers in First-Level Entry Occupations in Digital Computer Installations. Ohio State University, 733 pp. 1964.

Kelly, Richard L. A Job Analysis of the Duties and Responsibilities of Selected Semi-Professional Accountants in New York State. Pennsylvania State University, 327 pp., 1970.

Kerlinger, Fred N. Foundations of Behavioural Research. (2d Ed.) New York: Holt, Rinehart & Winston, 1973.

Kish, Leslie. Survey Sampling. New York: Wiley, 1965.

Kuefler, M.M. High School Bookkeeping and Other Selected Factors as Predictors of Success in Elementary Accounting at the University of Alberta. Unpublished Master's Thesis, University of Alberta, 1968.

LaSalle, James F. The Role of the Secondary School Business Education Department in Preparing Students for Employment in Business Offices Using Data Processing Equipment. Pennsylvania State University, 172 pp., 1963.

Lanham, F.W., Herschelmann, K.M., Weber, C.P., and Cook, F.S. Development of Performance Goals for a New Office and Business Education Learning System (NOBELS). U.S. Office of Education, Project No. 8-0414, 1970. (ERIC Document Reproduction Service No. ED 041 139)

Linnaus, Vernon F. A Study to Identify a Comprehensive High School Bookkeeping and Accounting Program. University of Nebraska, 281 pp., 1968.

Luxner, L.A. Factors Affecting the Employability of Vocational Bookkeeping Students. (Doctoral Dissertation, University of Pittsburgh, 1970). Dissertation Abtracts International, 1971, 31, 4643A (University Microfilms No. 71-8003).

Mandel, B.J. Statistical Sampling. Delta P. Epsilon Journal, February 1965, 7(2), 60.

Manpower and Immigration. Forward Occupational Imbalance Listing .

Moreland, Paul A. A History of Business Education. Toronto: Pitman (Copp Clark), 1977.

National Education Association, Research Division. Sampling and Statistics Handbook for Surveys in Education. Washington: 1201 Sixteenth Street, N.W., 1965.

Partens, Mildred. Survey, Polls and Samples. New York: Harper & Rows, 1955.

Perkins, E.A., Byrd, F.R., and Roley, D.E. Clusters of Tasks Associated with Performance of Major Types of Office Work. U.S. Office of Education, Project No. 7-0031, 1968. (ERIC Document Reproduction Service No. ED 018 665).

Raj, D. The Design of Sample Surveys. New York: McGraw-Hill, 1972.

Schillak, John R. The Impact of the Computer Upon the Job Tasks of Individuals Employed in the Financial Accounting System of Selected Businesses. University of Wisconsin, 342 pp. 1975.

Scott's Industrial Directory Western Section, 1st Edition, Oakville: Penstock Publications Limited, 1968-69. Head Office: 75 Thomas Street, Oakville.

Selltiz, Claire, Wrightsman, Lawrence S., and Cook, S.W. Research Methods in Social Relations. (3d Ed.) New York: Holt, Rinehart and Winston, 1976.

Sledge, Duncan. Microcomputers in Education: A Selection of Introductory Articles. Council for Educational Technology, 1979.

Spanswick, R.S. An Investigation to Determine the Qualifications and Skills Desired, Accepted, and Actually Used in Manual Bookkeeping Jobs Which Were Listed in Chicago and New York City Newspapers During the Months of May and August, 1966. (Doctoral Dissertation Northern Illinois University, 1967). Dissertation Abstracts International, 1968, 28, 2835A. (University Microfilms No. 68-1120)

Stelter, Gayle A. A Study of the Bookkeeping and Accounting Duties Performed and Automatic Equipment Used by Bookkeeping and Accounting Employees in Rural Minnesota Businesses. Northern Illinois University, pp. 465, 1968.

Sudman, Seymour. Applied Sampling. New York: Academic Press, 1976.

Wees, Wilf. Nobody Can Teach Anybody Anything. Doubleday, 1972.

West, Leonard J. Sampling Techniques. The Delta Pi Epsilon Journal, 1963, 5(4), 115-124.

West, Leonard J. Survey of Entry-Level Bookkeeping Activities in Relation to the High School Bookkeeping Curriculum. City University of New York, New York Institute for Research and Development in Occupational Education, 1973. (ERIC Document Reproduction Service No. ED 086 873)